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EDUCATION

E. E. HIGBEE, EDITOR.

CONTENTS.

Marvelous Record of Electric Progress: Possibilities in the Realm of Electrical Sci nce—Story Surpassing the Arabian Nights. 385
"Practice What You Preach :" Theoretical Instructors, *Jennie Hodgins*. 392
Duties of Directors: Office of Grave Responsibility, *Mrs. Geo. B. Lord*. 394
Early Spring: Phenomena of Plant Life, No. 2—"Every Living Creature has its Cornfields"—Gratitude for Every-day Blessings, *L. H. Grindon*. 395
Writing for Little Folks: "Something that Can be Read," *L. D. Smith*. 398
The Quincy Schools: Account of Interesting Visit, ... *J. H. French*. 398
Ingenuity in Teaching: Essential to Success, ... *J. A. Zellers*. 402
The New Methods: "The New Spirit, Purpose, Aim," . . *C. F. Carroll*. 403
A Way Out and Onward: Reformed Spelling . . . . . *W. G. Waring*. 408
Our Schools and Their Needs: "Gospel of Wonder," . . *H. B. Jacobs*. 409
Advantages of Ignorance: Humorous Defence . . . . . *F. W. Clarke*. 411
Too Much Reading: "Thinking Always in the Passive Voice," 412
EDITORIAL DEPARTMENT.—State Association—New Appointments Electric Progress—Resignation of Prof. Edw. Brooks—Soul of Teacher—Prof. Huxley on the Bible as a Reading Book—Study of English Literature—Superintendent in Philadelphia—Obituary: Rev. C. Cornforth . . . 413
Official Department.—Resignation and Appointments—The Music Question—Items from Reports—Permanent Certificates, ... 420
Music Page: "Let Others Dream," and "The Vesper Hymn," 424

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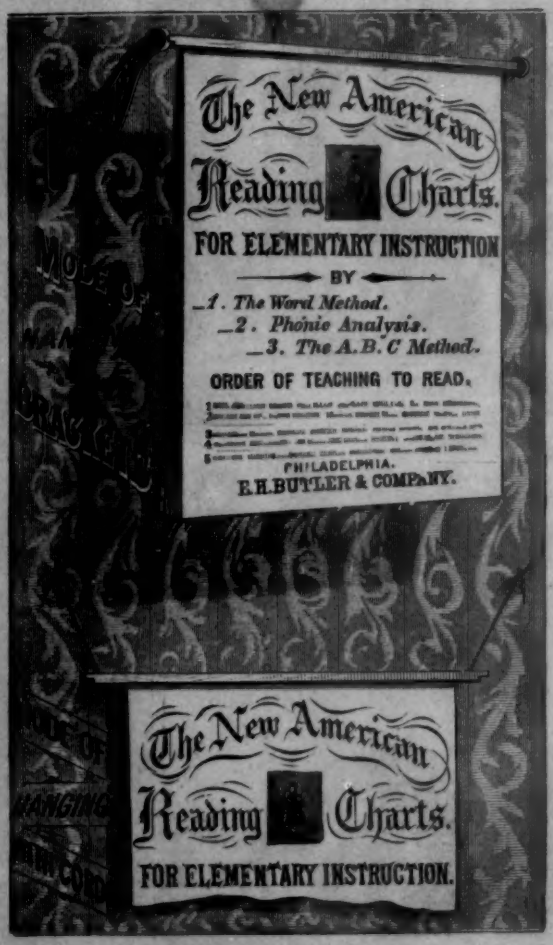

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THE
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MARVELOUS RECORD OF ELECTRIC PROGRESS.

STORY SURPASSING THE ARABIAN NIGHTS.

LET no reader groan on seeing this title, fearing that he is to be treated to an *olla podrida* of scraps from scientific text-books, served up with a mysterious sauce of algebraic and technological spicing. There is no intention to set on the table any such indigestible and unsavory compound. No dishes with long and incomprehensible names, more puzzling to the uninitiated than the things they profess to describe, will be thrust before him. No jargon of Volts, and Ohms, and Webers, shall bewilder him. No magnetic molecules shall dance a maddening war-dance around his chair. Neither internal nor external "resistance" shall vex his soul. That mystic EMF over which scientific men gloat as schoolboys over plum-cake, will not be allowed to enter here. Polarization and induction, tension and electrolysis, foot-pounds of energy, anodes and cathodes, $A+B-X$ and $SO+HO^3$, with all their kindred, will find no place. The table is spread for natural and not for scientific palates. The bread is not to be cut in mathematical figures, as in Laputa, nor the food provided made hideous by being dissected before the eyes of the guests, with the scalpels of learning. "Ladies," said the Professor of Chemistry, on finding a screen before the fire, "I observe you are repelled by the caloric." "That 'saturated solution' of pedantry should be 'precipitated' down stairs," was the prompt reply of the guest who followed him into the room; and who shall not say he was right?

Electricity has long been a subject which had little interest except for the lovers of scientific research. A generation has not yet altogether passed away in which all industrial use of electricity was unknown; and the only practical application of knowledge in regard to it was not one to apply it usefully, but only to check its powers of destruction. Fifty years ago, lightning conductors were the only electric works in common use; and the proper construction of these themselves was so little understood that to this day such appliances are constantly made and put up in the worst possible way for effecting their purpose. Now all this is changed. The thick network of wires that disfigures all our great cities is a daily demonstration to all of electricity being put to most important practical uses, and our means of communication are such as the most imaginative fairy-tale that ever was written could not excel for wonders. The putting of a "girdle round the earth in forty minutes," was a pretty flight of fancy; and Ben Jonson's Fortunate Isle, where

> "You have made
> The world your gallery, can despatch a business
> In some three minutes with the Antipodes,
> And in some five more negotiate the globe over,"

was intended to please mortals with a vision of the unattainable; yet such things are now done prosaically for a payment of so many shillings—the G. P. O. Ariel, with his yellow envelope, bringing us tidings

which have outstripped the sun; so that we know by noon what occurred in the evening of the same day elsewhere. But wonderful as has been the development of the telegraph, it appears likely that ere long we shall look upon it as but one, and by no means the most marvelous of countless applications of electricity. We seem to have discovered a giant whose powers are illimitable, yet whose strength can be applied to do the most delicate and subtle work—who is always ready for duty, and whose energies can be drawn out in a thousand ways—whose strength can be generated at one place, and carried to another for use, without serious loss—who can accumulate his vigor so that, if it is not employed for a time, he can then do work much harder than he could do continuously—who will begin working and stop working, at a touch—who will bore our hardest rocks, and carry our gentlest whisper to a friend miles away—who will be always docile, noiseless, untiring, never capricious, and ever on the alert.

No doubt many will say, and many do say, that the electrical world has got excited, and is promising too much; that insuperable difficulties will come in the way; that when the temporary excitement is over, electricity will not be found to be so much more advantageous than other forces after all; in short, there is plenty of pointing at cold water, a good deal of throwing of it. Even scientific men are found now poohpoohing in a grandiloquent manner the future of electricity, magnifying difficulties and minimizing advantages. But let the reader be patient in the reflection that it always was so, and always will be so. The greatest men are sometimes behind their age in practical matters. It is not much more than sixty years since the most learned men of the day gave evidence on the subject of gas which to us now seems almost comic. The Royal Society reported, in 1714, that no gasometer larger than 6000 feet capacity should be permitted. Such men as Sir Humphry Davy and Sir William Congreve gave evidence before a Select Committee that gasometers of 20,000 feet capacity were too large for safety; that they could not understand the "temerity" of the Parisians, who then were building one of 300,000 feet capacity—Sir Humphrey declaring that 12,000 was his limit, and that he would be uneasy if he lived near one of 20,000. Great fear was also expressed that if a street lamp went out, the wind might *blow down the burner and cause an explosion in the main!* And other witnesses prophesied the most disastrous consequences from jets flaring up and setting fire to everything near them. In the same way, when the first steamer was launched, it was averred that no steam-vessel could ever cross the Atlantic; and later, when the screw was introduced, one of the largest and most successful Atlantic shipping companies was satisfied, on full investigation, that no screw steamer could ever make an Atlantic voyage. That same company but a few years ago possessed the only remaining paddle-ship on the American route, and has lately launched the largest screw-steamer in the world for the Atlantic traffic—the Great Eastern, though larger, being both paddle and screw.

But it is in the history of electricity itself that the most extraordinary instances are to be found of the narrow-mindedness and want of foresight, even of learned men, in regard to the practicability and usefulness of discoveries and inventions. The man who first suggested an electric telegraph, in a letter to the *Scots Magazine*, in the year 1745—Charles Marshall—was looked on as having dealings with the Evil One, and had to leave his native country and go to America. When Ronalds, about the year 1817, laid his plans for an electric telegraph before the Government, they would not even take the trouble to investigate the matter. An under-secretary, in the usual official style, informed him that he was "directed by his Majesty's Secretary of State, etc., etc., to inform Mr. Ronalds that a telegraph is of no use in time of peace, and that the semaphore then in use was quite sufficient for the purpose." The full effect of this sapient deliverance will be understood if it is imagined that it were proposed now for the first time to introduce the electric telegraph, and Sir William Vernon Harcourt should intimate to the inventor that no telegraph was required, as we were not at war; and that, if war should break out, Mr. Childers could use things like the signal-posts with the projecting arms, which we see on railways, put up at distances of a few miles, and by waving their arms about in different positions, telegraph news quite rapidly enough. Again, after the electric telegraph had been established in this country, the French Government refused to have anything to do with it unless it could make the same signals as the semaphore with its waving arms; and an ingenious clock-maker had to invent an instrument by which the electric current waved about the arms of a miniature semaphore into the required po-

sitions. And when Mr. Cooke, who had successfully introduced the telegraph in England, went over to Paris and proposed the erection of an electric telegraph between Paris and Havre, the idea was laughed to scorn, as being Utopian and impossible, and he came home disgusted.

Coming to the present time, it is easy to find instances of the same tendency to put aside with contempt things that are destined to effect enormous changes in our daily life; and in no branch of science has the wisdom of the Yankee—"Don't you prophesy unless you know"—been so strongly exemplified as in the case of electricity. In 1878, a French *savant* declared that when the Exposition of that year was over, the fanciful mode of lighting by electricity would disappear, and we should hear no more of it. In 1879, scientific men declared that it would be found impossible to adapt electric lighting to dwelling-houses or small rooms. In the same year one of the most able and experienced electricians of the day stated, before a select committee, that he did not think the telephone would be very much used in this country, giving such reasons as the following:

Query 539.— . . . "Do you consider that the telephone will be an instrument of the future which will be largely adopted by the public?—I think not."

Query 540.—"It will not take the same position in this country as it has already done in America?—I fancy that the descriptions we get of its use in America are a little exaggerated; but there are conditions in America which necessitate the use of instruments of this kind more than here. *Here we have a superabundance of messengers, errand-boys, and things of that kind. In America they are needed.*"

People in all positions of life sometimes speak nonsense; still it may safely be said that no one but a scientific man would have uttered such folly as this.

Another extraordinary instance of similar narrowness of mind on the part of scientific men is to be found in a most admirable electrical treatise, in which the author gives a description of modes by which two messages can be sent at once along the same telegraphic wire, or cross-messages sent from opposite ends of the same wire at the same time. He concludes his description by saying:

"Both these systems of telegraphing in the opposite directions, and of telegraphing in the same direction more than one message at a time, must be looked upon as little more than 'feats of intellectual gymnastics,' very beautiful in their way, but quite useless in a practical point of view."

This was written so late as 1869; yet now telegraphing is practically carried on not by two messages only on the same wire, but by four, and sometimes even five and six.

But perhaps there is no instance so remarkable of this want of foresight and practical grasp which is often displayed by the most able and learned men, than what was said about gaslight when it was first introduced, particularly as what was then said of gas is almost word for word the same kind of thing as some are now saying of electric lighting.

In 1819, Desormes wrote of gas:

"The light is of a disagreeable color, entirely different from the red and warm gleam of our oil lamps. It is of a dazzling brightness; its distribution will be impossible and irregular, and it will be much dearer than oil-lighting; and even if it should be improved, it will still remain much dearer than those lights which we already possess."

Substituting the word "gas" for "oil," and reading the passage as if electricity were being spoken of instead of gas, the kind of criticism which is now being made on the electric light is exactly reproduced—"cold, dazzling, impossible to distribute it, irregular, dear."

The moral of all this is, that the public, while not adopting any new developments of electricity until they are practically and economically useful, should refuse to allow the pessimist croaking of men, even though they be learned and scientific, to deter them from giving encouragement to the development they must see going on all around them. And the aim of this paper is to give to the non-scientific public some notion of what has been accomplished already, from a practical point of view, in electric development; and also to endeavor to point out how recent discoveries and inventions may be extended in the future, not by way of prophesying what will be accomplished, but of indicating what seems likely. But of this at least the reader may be assured, that if at any point what is said may go beyond that which is actually to happen, what is within that point embraces marvels beyond the wildest imagination possible a generation ago, and practical applications of these which will be beneficial everywhere and in countless ways.

Till lately, the practical applications of electricity were limited to those appliances which could be worked without very much power. No means had been discovered for producing electric energy in powerful form and in large quantity with ease and cheapness. The modes in use were cumbrous and expensive when applied on a large scale; so much so as to debar their use for

work requiring great power. But in those departments in which a moderate quantity could be made use of, enormous progress was made from the time when the first great practical use of electricity was begun in the establishment of the electric telegraph. It seems to us now almost incredible, with our tens of millions of telegrams yearly, that the importance of this great step in science was so little understood, that on the opening day of the first Electric Telegraph Company in the world, in London, only two messages were handed in for transmission during the whole forenoon. But when the success of the telegraph in securing the arrest of Tawell, the Quaker murderer, drew public attention to its value, a great stimulus was given to interest in electrical subjects, and rapid strides were made in such industrial inventions as could be worked with the moderate quantities of electricity that could then be obtained. Still, all that could be done was but as the twitching of the finger of the sleeping giant, compared to what men who understood the subject knew they might expect if only means could be discovered by which electricity could be developed on a large scale cheaply and easily. This difficulty has at last been overcome, and machines have been constructed which produce electricity in enormous quantity, no other appliance being necessary to cause the machine to produce, than rotary motion obtained from a steam or gas engine, or a water-wheel or windmill, or even from horse or hand labor. This has effected a perfect revolution in the electric world; it has brought electricity from the field of scientific research and delicate appliance into the field of actual mechanical labor; and this not only as a substitute for other modes of doing mechanical work, but in another infinitely more valuable character—that of a vehicle by which such power can be carried at small expense, and practically without loss, from any place at which there is the means of producing it, to any other distant spot where it may be desired to apply it. A very simple illustration will make this plain. A windmill is the cheapest of all sources of powerful mechanical work, if wind is always available. But as there is generally most wind high up where there is no shelter, while the work has to be done on the plain, windmills are rapidly disappearing. Now, however, that electric power can be produced on a large scale, the fact that it can be transmitted along wires makes it possible to use the prevailing wind on the top of the hill to produce electricity, and to use its power at the bottom of the hill to do the useful work required. In the same way there may be great water-power at a spot where no mill can be built, and where the labor and expense of bringing material to be worked in it would be too great. But now the water-power can be used where it is found, and its strength, converted into electricity, conveyed to a mill erected in any convenient place, to do the work required.

This, then, is the first giant stride that has been made in matters electrical. But its full importance cannot be estimated by considering the power to do mechanical work above described. It has other and enormous advantages. Power in the form of electricity is not only as useful for the kinds of mechanical work which other powers, such as wind, water, steam, or horses, can perform—and convenient from the ease with which the power can be carried to any required spot to do the work required—it will produce a great number of practical results which cannot be obtained from any of the other mechanical sources of power without its aid, and many which can be obtained from others, it will produce in a more easy and efficient manner. Take once again the illustration of a water-wheel. In former days, such a wheel could give power to grind our corn, or weave our cloth, or make our paper, or crush our quartz, provided the materials could be conveniently brought to the water-power. Now, not only can such water do the same work miles from where it is running, by its power being used to produce electricity; not only can it work our clocks, drive paterfamilias' lathe and mother's sewing-machine, pump the water, turn the spit, work the dinner-hoist, in our private houses, and thresh, grind, spin, weave, and calender in our factories—it can with ease do much more than the water-power could do, even were it close at hand and with the most complicated appliances. It can make the running water far away ring our bells, regulate our clocks, rectify our alcohol, plate our spoons, gild our ornaments, multiply our engraving plates, make permanent our photographs, and work our ploughs and our tram-cars. These are but illustrations of what can be done and is being done. But even here the wonders do not stop; for not only will power such as water, when employed to produce electricity, be available at a distance from the place where it exists, and for purposes which it could not of itself fulfil—strange as it may sound, the power of water

will produce by its new application heat and light. A water-wheel, by being employed to generate electricity, may light our rooms, cook our dinner, and ripen our peaches. We can have light from it by which we can work as easily at night as in the day—a light which will neither consume our fresh air, nor vitiate it with foul gases, nor smoke our ceilings and destroy our curtains; which can set fire to nothing; the globe of which can be hooked to an invalid's bed-curtain, without risk, or attached to flexible wires and taken into the most confined corner to give light to a workman, without danger of fire. It would fill a volume to state at length all the practical advantages which this development of electricity has opened up already, and more than a volume to state all that it may expected yet to accomplish. Let it also be understood that while the foregoing illustrations have been stated in relation to water-power, they are equally true for any other power, such as steam-engine, gas-engine, horse-power, or human labor. The fixed engine on a farm can do the ploughing hundreds of yards off. The gas-engine that pumps water by day, can light the house at night. The horses that drag coal-carts for many miles to work a steam engine in some outlying place can be used at home instead to work an electric machine, with no loss of time, and in many cases with less waste of labor. The convicts on a treadmill can be doing work by it at any part of, or even outside, the prison. In a word, the power for work can be generated by any ordinary means, and at any place where the means exist, and can then be economically conveyed to the spot where it is to be usefully applied, without loss of time, and practically in full strength. The tide on the shore can do work inland; the stream in the mountain-gorge can do work on the hill-top; the wind-mill on the eminence can do work in the valley; the horse in the yard, or the man in the outhouse, can do work inside the dwelling. And with all its power, and its universality of application, this new servant which science has supplied us with is the most docile of menials. A touch of a lady's finger will bring into action a power which a thousand men could not resist; another touch will stop its action or reverse it in a moment.

But even this is not all. This power, that can be thus used for a thousand different practical purposes, and with countless varieties in the mode of application, can not only be obtained freely, and at a moment's notice, at any place, and in illimitable quantity; it can also be stored up when needful for future use. It may be said that our genii will not only come at the rubbing of the ring or the lamp, but that they can be bottled up harmless, like the *jin* hauled ashore in the copper vessel by the fisherman's net, and yet remain in full vigor, ready to stand up in his strength when liberated. It is almost literally true that the lightning can not only be seized and made do our work, but that it can be bottled up and stored, and carried from place to place at pleasure. Within the last few years the problem of producing electricity, and storing it up ready for immediate use, has been practically solved; so that Sir William Thompson could in Glasgow perform powerful mechanical work by electricity which had been generated in Paris, and brought, ready for instant application, from Paris to Glasgow, just as a clock wound up abroad could be brought to this country and set going here. Of course it will be understood that this is only a popular description of the operation—the reader being presumed to be at present only interested to know what can be done. A scientific explanation of the process would be out of place here. The fact it is desired to impress upon the reader is, that not only can the force of electricity be carried far from the generating source for immediate use by being carried along wires, but that it may be bottled up in movable vessels, which can be carried like any other goods to a distance, and at once made available for any purpose for which the electricity could have been used at the spot at which it was first produced. Electricity can be stored in square cases, which can be conveyed by hand or carriage to any spot where it is required. The doctor can take his bottled electricity to the sick room under his arm to perform an operation. The lecturer can bring it stored up to the lecture-table. The aeronaut can carry it stored up in his balloon. The owner of a boat with a screw can convey electricity in a wheel-barrow to the water's edge, place the cases in which it is stored in the bottom of his boat as ballast, and turn his propeller with it. The lady can have it delivered at her door as the milk is, and work her sewing-machine with it. The tricyclist can put a case under his seat, and run by it. Lamps can be lighted, clocks can be worked and regulated, safes secured, spoons plated, copper-plates made, by electricity stored up in cases. Indeed, any operation within the power of electricity to accomplish otherwise, can be done by stored electricity.

Still there is something more. Not only can we control this power to do work, whether directly or after storing up. The storing up does not merely enable our genii to come out of their bottles at any time ready for work; we can roll a number of weak genii into one of enormous strength. We can apply the power we possess for producing electricity in a concentrated form by the aid of the discovery of the means of storing it. The *jin* of the "Arabian Nights" was no stronger when he left his copper bottle than he was when he entered it; but the one who is now impressed into our service excels all those of the Thousand and One Nights in this, that if we choose we can work up his strength for hours, so that in the next hour he shall be many times stronger than he was. If he was strong enough to lift a ton in one hour, we can store up his strength for six hours, and use him then to lift six tons. We can store up his strength all night, so that he can do twice the work he would otherwise be able to do during the day. In other words, we are not limited to using this power at once to its full extent when it is generated, or allowing it to go to waste; we can store it up, and apply it as concentrated power afterward. This, it will be seen at once, is an incalculable mechanical advantage. It very often happens that there is power available and work required, but that the power available is too weak for the work to be done. One horse is useless if a weight to be moved requires the strength of two; but if a man who owned only one horse could by any means get it to do the work of two horses for one hour, instead of doing its own work for two hours, he could then with one horse move a weight that at present it requires two horses to move. This is practically what can be done. A source of power which can only produce electricity in very limited strength, may have what it does produce accumulated, so that it can do work requiring great strength. A feeble fall of water which would only keep up one electric light continuously, can, by the power it develops during the day being stored up, keep several lights up for a few hours at night. A steam-engine or gas-engine of limited size, kept constantly going, can enable work to be performed for a short time that could only be done by a very much larger engine of the same kind.

But if our giant is thus a prodigy both of strength, and of application and concentration of strength, let it not be supposed that he resembles other giants in an unfitness for work that is refined and delicate. He is no lumbering, clumsy mass of power merely, too rough-handed for work that requires sensitive touch, and too gross in perception to be able to separate the coarse from the fine. Powerful as he is from the merely mechanical point of view, his powers in regard to minutiæ are quite as marked, and, if possible, more marvelous. The hand that is so weighty has a touch as fine as the most delicate woman. It can catch up and repeat along a long conductor the most minute vibrations caused by the human voice, reproducing them with most perfect accuracy. It can grasp and magnify the vibrations of the movements of the tiniest insects, so that they become audible to the human ear. It can detect the most infinitesimal speck of metal in any substance, and disclose its presence unerringly. It can record permanently the rhythm of the feeblest pulse. It can measure, in degrees so close that it is difficult to put them down on a scale, the variations in the heat of a body. It can detect a trace of moisture to which a drop is as the Pacific Ocean. It can act with such rapidity, that by its aid a photograph can be taken in the 5000th part of a second, so that several distinct pictures of a horse can be taken in the successive stages of one bound. It can correct clocks long distances apart to the tenth part of a second. It can move in motions so minute and rapid as to resemble the vibrations of an insect's wings. It can take a cast of the most delicate moulding without losing a shade of its perfection. It can record the variations of the speed of a bullet from the time it moves from the breech till it leaves the muzzle of the gun. There is almost no limit to the minuteness of its action, or the refinement to which it can be brought.

The extraordinary development of this wondrous force of nature which has taken place during the last few years, has led to the subject of electricity being more popularly treated than it formerly was, and to exhibitions devoted to electrical science only being opened to the public. The very great interest which these have excited, will doubtless stimulate the development of the industrial appliances of this power to a greater extent than ever, and may lead to still more interesting and useful discoveries in regard to it. But already the day is gone by when electricity was a thing of mystery, associated with telegraph rooms sealed to the public by the "No Admittance except to the Company's Officials" placard.

It is becoming rapidly our servant in the social region, as it has been for some time in that of business. The interesting pet of the *savant*, the amusing child of the amateur, has developed itself into a youth of promise, already doing great things, and giving certain hope of still greater.

The recent Exposition in the Palais de l'Industrie at Paris, enabled many thousands to form some idea of what is being done in this comparatively new field for invention. The building, originally erected for an International Exhibition of the industries of all nations in all departments, was filled from end to end with machinery and models, all relating to the subject of this paper. A visitor might wander about in the Palais for weeks, and find every day some new marvel to astonish and interest him. Whatever his tastes might be, he could not fail to encounter something congenial to them from time to time. Those interested in the culture of plants might inspect greenhouses in which shrubs and flowers were growing freely without any other light than that supplied from an electric source. Lovers of art could see the operation of reproducing in metal, with the utmost delicacy of finish, statues or bas-reliefs. Students of photography saw pictures of exceptional excellence taken by electric light. Metereologists could watch the variations of the barometer and thermometer, and the speed and pressure of the wind, being automatically recorded from minute to minute. Tradesmen had recommended to their use electric tills, in which every payment was recorded. Millers gazed with astonishment at electric rollers sorting bran from flour. Nautical men saw M. Trouvé steering his boat, driven by electricity, in the basin of the fountain. Aeronauts were encouraged to hope for balloon navigation by M. Tissandier's model balloon driven by stored force. Members of Parliament were shown how their weary journeys through division lobbies on obstructionist motions might be saved by electrical voting machines, each member's vote being recorded by pressing a button marked Aye or No. Crowds heard the performances of the Opera or Comédie Français by telephones connected with the theatres. People who require to have their premises guarded at night saw how their watchman could be checked on his rounds as often as desired. Soldiers could inspect the appliances by which communication is kept up between the divisions of an army, and a telegraph erected or taken down as rapidly as the column can march. Those interested in gunnery saw how the speed of shot, both within the bore of the cannon and during their flight in the air, can be recorded. Divers were shown lamps which they could take to the bottom of the sea, requiring neither air nor trimming. Owners of coal-mines had demonstrated to them how it was possible to light the underground workings without risk of explosion, and to know at once in a manager's office if there was a tendency to accumulation of fire-damp in them at any spot. Quarrymen could see the hardest rock being bored, and apparatus for blasting, by which the shots can be fired from a distance. Musicians were amazed to see at work an instrument by which they will be enabled to sit down at a piano-forte and improvise for any length of time, and find all that they have played recorded at length. Ladies gazed in wonder at sewing-machines which seemed to go of themselves, and at a pace which no human foot could keep up. Travelers saw in all directions most ingenious devices for preventing collisions on railways. Lovers of punctuality rejoiced at the sight of clocks automatically regulated to fractions of seconds. Timid people were offered burglar-scarers and thief-detectors of most ingenious construction. Invalids had a choice of scores of medico-electric appliances, bands, baths, rubbers, and coils for curing all manner of nervous disorders. Surgeons could find many ingenious instruments for diagnosis and operation. Lovers of billiards were shown tables provided with appliances by which the game could be scored on the marking board without leaving the table. Persons going to or from the Palais could ride at twelve miles an hour in a carriage driven by no visible agency. Pumps going as unaccountably raised tons of water to a height. Lifts by which people could ascend and descend by electric agency were at work. Electric ploughs cut deep and well-turned furrows. At night the scene was like fairy-land. Hundreds of brilliant lamps made the Palais far lighter than it had been at the brightest period of the day. Pictures were to be seen lighted by the electric lamp, demonstrating successfully that the colors are not changed by it, but remain as they were during daylight. Saloons, more perfectly lighted than they could possibly be by gas or oil, were as cool, and the air in them as pure, as when no lamps were burning in them.

But it would take pages even to state all the wonders of brilliant discovery and in-

vention already made, far less to speak of what may be expected to follow. One final illustration in relation to recent sad events which have horrified the world, may give some idea of what can and will be done with this power as now developed. Within the space of a single year, two tragedies have occurred—one in the Opera House at Nice, and the other in the Ring Theatre at Vienna—in which the loss of life has been appalling in its extent, and sickening in its details. So strong is the impression on the public mind by these harrowing events, that in all countries those in authority are anxiously considering what can be done to diminish the risk of occurrence of fire, and of its becoming serious when it does occur.

To all these most desirable ends electricity can give most important help. A theatre can now be lighted in such a way that the lamps require no fire to be applied to light them, nor can they set fire to anything. The lights in the body of the building and in the passages can be freed from all connection with those in the parts devoted to the performance, and can be so adjusted that any accident affecting a portion of them cannot influence the rest. Matters can be so adjusted that pressure applied to any one of a number of buttons placed in different parts of the house will at once lower an iron screen dividing the building, throw open every door (ordinary and extra), summon the fire-brigade and the police, and raise instantly a powerful pressure of water.

An enterprising manager of a London theatre has already fitted up his house with electric lights, both behind and before the curtain. That his example will soon be followed is not doubtful. Even were the light very much more expensive than it is, the additional expense would be by no means a costly insurance for all large public buildings, where not merely loss of property, but terrible loss of life, is the result of fire. And it is reasonable to expect that, as the march of invention goes on, cost of production will be substantially diminished. But when to safety from danger there are added the advantages of freedom from heat, non-consumption and non-contamination of air, and absence of smoke, the advantages of the new invention are seen to be such as to make it certain that its general adoption for use in all large buildings is only a question of time.

If what has been already accomplished in this now rapidly expanding region of practical science is so wonderful, the future prospect is still more so. A few years may bring about a state of things in which men will be astonished that they could ever have thought the appliances of 1860 practical and convenient, and the wonders of the steam-engine be to us as the loom of old days was to those in whose generation the Jacquard was introduced. That the development will be the more rapid and the more useful in proportion to the general interest taken in it by the public is sure; and it is hoped that what has been said may tend to promote such a feeling of interest in a subject which is daily proving itself to possess substantial benefits for all.

Blackwood's Magazine.

"PRACTICE WHAT YOU PREACH."

BY JENNIE HODGINS.

THIS is an old and homely adage, heard frequently, but forgotten as soon as heard. Familiar as household words to all of us, how many pause to think of the lesson it conveys? Few, I fear; for it requires so little thinking that, like all other simple things, we consider it worth none. The words certainly are short and plain enough taken individually, yet grouped in a sentence they are, it seems to me, worth pondering. Speech is a natural gift; few people think it any trouble to make use of it, and the majority of mankind not only *use* but *abuse* it. *They talk too much.*

I heard it remarked some time ago that a young lady graduate who has charge of her first school, talks, under the impression that she is teaching, until her hearers wonder that her vocal mechanism does not wear out, or, at any rate, become impaired. Young ladies, whether teachers or not, do talk a great deal, certainly, and not always do they *practice what they preach;* but they are not the only ones. "Company lightens misfortune," is another adage, if you will allow me to make use of a second, and in this instance young ladies have plenty of company. When we look around this vast world of ours, think of the professions that are monopolized almost entirely by men, hear them discuss, read their lectures, and then remember how few we can name, how very few we know, who apply in their daily life the principles on which they discourse so eloquently, we realize the difference between theory and practice.

By naming separately each walk in life, we might extend indefinitely the list of persons who act on the "do as I say, not as I

do" principle; but one illustration will suffice. Talkers flourish in every profession, but in none, I think, do we find more than in that of teaching. The school-room seems to be their vantage-ground, whence they propagate ideas and theories which *they* never carry into practical use, and which no one else can. They do not pause to think whether their theories may be reduced to practice by others or not. They are quite confident that if *they* had time they could apply them, but just at present they are very busy. A great amount of talking remains to be done ere the mass of teachers is converted to their way of thinking, and that must be seen to before anything else. What matters it if, before that is accomplished, some other person demonstrates clearly that they are merely talking? They take up, then, another subject, about which they know as little, and talk that threadbare.

For instance, a teacher thinks he knows a great deal about teaching arithmetic. He has a few pet ideas of his own on the subject. He has never tested any of them in his school-room, but he has thought of them and talked of them until he is almost persuaded that he *has* applied them. However, they sound well; he supposes they may be applied, and he proceeds upon every favorable opportunity to inflict them upon others. Some honest, hard-working teacher, judging all men by himself, and deceived by his fine language and easy delivery, thinks there may be some good common-sense ideas concealed beneath the flow of words, and goes at once to work to find them. Vain labor; for, like the mirage in the desert, the sense disappears just as he would grasp it, and he discovers that the splendid ideas of this would-be educator resolve themselves into mere empty words.

Teaching in practice and teaching in theory are two entirely different things. A teacher may rise in institutes, teachers' meetings, and gatherings of that sort, and lay out in one hour's discourse more work than a practical teacher can execute in a whole school term. It does not seem to the talker that he has done so—it is so much easier to preach than practice, that probably he will never find it out, for he will persevere in talking without attempting to practice; but nevertheless it is a fact. He has enunciated good theories possibly, although we may not agree with all of them. But let us enter his school-room, examine his classes, watch his mode of teaching, and we will find, in the majority of cases, that he does not even attempt to reduce theory to practice. He thinks it is no trouble at all to stand before an audience of teachers, all of whom are of average intelligence, and tell them how he would conduct such and such an exercise, how he would meet and master this and that imaginary difficulty. His vanity is flattered by his position, and by the evident interest with which his remarks are listened to. He would consider it pleasant labor to spend a life-time at it.

But the scene changes; he is no longer the pleasing lecturer, talking to an interested audience of adults. He is but a district schoolmaster, presiding in the old log schoolhouse over fifty, sixty, or seventy pupils, of all ages, sizes and grades; alike, it seems to him, in only two things—their love of mischief, and dislike of study. Or he may be a city professor, with not one room filled with scholars under him, but several. In either case his position is changed. His audience is not now the interested gathering of teachers listening with rapt attention to his every utterance. His vanity is not flattered by their polite attention. On the contrary, his temper is severely tried by their carelessness and inattention. He wonders if they belong to the same order of animals as his previous audience. Just the same, dear sir. What they *are*, you *were*. The change is in yourself equally as much as in your audience. Talking was pleasant work for you when you talked to congenial listeners, but practicing is not so pleasant now when your surroundings have altered. The difficulties that were so easy of explanation when only imaginary are just a trifle more difficult now. Patience; practice as you preached, and they are solved. Seldom if ever is the requisite patience and practice applied. He knew when he lectured that to take up each one of his principles and apply it to practical school work would be no light labor; but telling others how to do it is not so difficult, so he lays to his conscience the flattering unction that he has amply fulfilled his duty when he has done that. Perhaps he has; but were all others to follow in his footsteps, education would soon be only a name.

This is decidedly not a personal, though by no means an exceptional, case. There are any number of teachers who know how and what to teach, but they are too indolent to make use of their knowledge. They do not represent the great mass of good, practical teachers, however, and we can take care that we do not swell the ranks of the talkers by remembering the lesson taught in the words, "Practice what you preach."

Pacific School Journal.

DUTIES OF DIRECTORS.

BY MRS. GEO. B. LORD.

TO no body of officers in our great Commonwealth are more important duties intrusted, than those which are placed in charge of the men chosen in our cities, boroughs and townships as school directors. The future welfare of the State, the growth and prosperity, even the life, of the nation, is placed in their hands. This being the case, it is proper that we should consider carefully the character of the men who are to fill this high and responsible office. They are to select those who, as teachers, are to mould the minds and morals of the rising generation. They take the place of the parents in their respective districts and give the children into the care of those who will make or mar their lives for all future time.

The citizens of each school district should look upon the office of school director as being of the first importance, and see to it that none but persons of ability, integrity and purity of character be selected for this position. Men who have performed their duty honestly and uprightly and to the general satisfaction of the public, should be retained in office, not removed to make room for those who, to say the least, are untried, and who may even in one term of office do harm that a generation may not outgrow.

But how often, indeed, are directors chosen who have not the highest interests of the schools at heart. How frequently such considerations as the following have a controlling influence in their selection: A new building is to be erected, and Mr. Jones, who is the largest property owner in the district, is elected school director, because he has expressed himself in favor of building as cheaply as possible, and in lessening his own taxes he must also make those of his neighbors less. Or a school site is to be selected. The people of the district, as is often the case, are disposed to quarrel about the matter, and Mr. Smith, by advocating the popular side, is elected. His motives in seeking the office are various. He may wish to make it a stepping-stone to some other office that bears with it greater honors or emoluments; or he may seek the election because he has a son or daughter, a sister or cousin, or some needy relative, who wishes a position as teacher.

Again, political feeling may be strong in the district, and we elect a man because he belongs to our party and is the party nominee. He may be an uncultured boor, wholly unfit for the office, while his opponent is an educated gentleman, in whose hands the school interests of the district would be fostered and protected as they should be. But the latter must be defeated, and the unfit man elected, because "our party" has so decreed. In the heat of passion we put party first, and leave our children and our important school interests in the background.

Only the ablest and best of citizens should have control of such interests as those of our public schools, and it is our duty to see that such persons only are elected school directors. Men are disposed to judge others by themselves, and if we have good men in control of our school system, we may expect to have competent teachers in charge of the schools.

But after taxes are levied, school houses built and furnished, teachers engaged, and schools opened, another duty of the directors is the supervision or visiting of the schools. The law says that each school in the district must be visited by some member of the board in his official capacity at least once a month. The common custom is the appointment by the board of some one of their number to see that this duty is performed, but frequently it is left for the whole number of directors and each waits for another to start. So the old proverb "What's everybody's business is nobody's business," is exemplified, and the schools receive few official visits.

Nothing encourages children more, or gives them greater interest in their work, than to see that older persons are also interested in it, and this official duty of visiting should never be neglected. "But," say some directors, "our business will not allow us to spend time idling in a school house. We can't afford it." Why accept the office, if you knew you could not perform its duties?

The law also says that women are eligible to the office of school director, and in every community you may find ladies who would willingly perform all the duties of the office. Then, why not elect a lady, if she is qualified and can take the required time?

Again, the law says that directors shall remove any teacher who is incompetent, negligent, cruel, or immoral. How can the facts warranting such removal be obtained, except by close, intelligent supervision of the teacher's work? Most frequently the only knowledge of the teacher's habits and qualifications is that given by some dissatisfied pupil or aggrieved parent, in the form of a complaint against the teacher, and an urgent request that he or she shall be dis-

missed from the school, because Johnny was punished or Mary was not allowed to regulate matters according to her own sweet will.

In short, the school director who does his whole duty in the fear of God, and without the fear of man before his eyes, must expect to be sharply criticised, if nothing more; and he may be thankful if duty properly performed does not, in many localities, draw down upon his devoted head the condemnation, political and social, of his constituency. *Venango Institute Report.*

EARLY SPRING.

PHENOMENA OF PLANT LIFE.—NO. II.

LEO H. GRINDON.

THE essential sign of spring in northern latitudes is the swelling of the buds upon the trees, and those of the sturdy bushes which the husbandman uses for hedges. The appearance of flowers, except to the experienced eye, cannot always be depended upon. Many that would be thought heralds of the new season are in reality relics of the year that has departed,—epitaphs on the summer of six months before,—memorials rather than prophecies. Such is the case with the wall-flower, which is often seen in bloom in England in January, unless the winter be very severe,—the succession of flowers from side-shoots having proceeded uninterruptedly perhaps since the previous May. This long-protracted flow of bloom is usually attributable to the flowers being gathered for love tokens or personal pleasure, and thus hindered from fulfilling the grand purpose for which all flowers are in every case developed, namely the origination of seed from which new plants shall be reared, to take the place of the parents, when the latter lie withered and dead. As long as a plant is hindered from proceeding with the due preparation of its intended seeds, so long will it persist in its efforts, and renew them, striving till all its vitality is exhausted, to leave if it be only a single voucher of its honest toil. A thousand times have I noticed this wonderful and quiet energy in operation. In the fields some hungry quadruped bites off the young green flower-heads as a relish to the insipid grass;—no matter, from every joint below, a new shoot is soon put forth; and in a few weeks, where there would have been, perhaps, no more than a single blossom, there are now a dozen flowers. So in the garden some lily hand takes a flower white as itself, and if the structure of the plant permit, by and by the whiteness gleams from one little side branchlet after another, and in a way that would probably never have happened save for the destruction of the first-born. Applying our knowledge of this principle to the interpretation of the Christmas wall-flowers, it is easy to understand how it happens that their bloom lingers so long. Many a posy when the days were at their best, was probably made odorous with the early blossoms of this cheerful plant; these that come in the dull cold days of winter are the proof of the hindered efforts, and a witness to unflinching perseverance in the fair endeavor,—a perseverance that may read us all a gentle lesson,—strive to the last; if we fail, we have at least deserved to win.

Very different are such flowers as the yellow pilewort and the golden coltsfoot. These are genuine spring blossoms, never appearing until the new year has made a fair start, nor renewing their flowers in summer and autumn. Being "weeds," and never growing in pastures, they are seldom cropped or gathered, so that the original preparation of bloom is generally followed by successful results in seed. Very pretty is it, when the last of the snow has dissolved from the ground, to see the bright rays of the pilewort among the half-withered relics of the past autumn upon the hedge bank, and their young leaves spreading a carpet over the heretofore brown earth in woods and groves; no less pretty is the spectacle of the coltsfoot, when it opens its yellow disk, formed of a hundred rays as fine as needles, and this without a single leaf to stand in contrast. But flowers need the sunshine in order that they may expand. On dull and cloudy days they remain fast shut up, but with the first kind beam from the sky they spread their little petals, and glow as long as the atmosphere is genial. The pilewort is not unlike a buttercup, but the leaves are rounded and polished, and it rarely grows taller than the breadth of one's hand. "Weed" it may be in popular estimation, but the wood-pigeons do not so lightly esteem it. The fleshy roots, shaped like little round beans, lie very near the surface of the soil; the rain washes the earth from them, and lays them bare, and these birds come and make their meals on the supply thus provided.

Every living creature has its cornfields; true, it is only man who is called upon to sow and reap, to grind and to bake into bread,—and this in order that by virtuous

and regular labor he may have his intellect and affections stimulated; but cornfields, in their kind, are spread for everything that eats,—composed, it may be, of the simplest and weakest plants in nature; still, in their importance to tens of thousands of speechless creatures, no less momentous than the broad acres of wheat and barley, oats, rice, rye, millet and maize, that supply the human population of the earth with their daily sustenance. There is probably no plant in all nature that does not directly support the life of some little animal: it was for this purpose that plants were in great measure called into being, and when we are tempted to despise the insignificant ones, and to call them "weeds," we should remember that nothing has been made in vain, and that everything has been designed for some generous purpose. But why should they be called "weeds"? Weeds are flowers out of the place for which Providence designed them. If a lily spring up by some casualty in a potato-bed, it is in that place a weed, quite as much so as a dandelion is among the tulips; but neither of them is a weed in its native woods or fields, since these are the habitations assigned to them, and in which, to eyes that look on the sweet simplicity of creation with joy and pleasure, they are always beautiful. Very much of what we are apt to consider the uncomeliness of things comes in reality of our not seeing them in their natural and proper conditions, but under some artificial and constrained circumstances that interfere grievously with their native characters. Look, for instance, at the unfortunate monkey, dragged from its native haunts, and carried about the streets on an organ-top. There it may well look ridiculous and even disgusting. But see the creature at play in its native woods, its free nature finding scope and opportunity, and living in harmony with the rudeness of the scene, and instead of being absurd, it becomes graceful, and the tree seems incomplete when the creature quits it. Much the same is it with the despised plants denominated "weeds." True, if allowed to spread unchecked, many kinds establish upon farm-lands a disastrous empire, that supersedes the prospective crops, strangling the roots, twining round the stems, or mingling their pernicious seeds with the wholesome grain; but this is a fact belonging to a different class altogether from that which includes the consideration of the absolute and intrinsic beauty and usefulness of the plants. Ragwort, that covers the neglected fields with gaudy yellow, nourishes the caterpillar of a lovely butterfly that will eat no other leaf with content;—thistles, that aggravate the farmer uncareful to nip them in the beginning, supply in their seeds food for innumerable little birds, especially those of the goldfinch kind. Both plants, moreover, in vigor of growth, elegance of organization, clear brightness of color, and long-continuing flow of cheerful bloom, take place with the handsomest that the profusion of nature flings abroad. We may travel many miles, and explore whole provinces, and not find a more charming plant than the crimson musk-thistle. In its native haunts and proper abiding-places (which are by the edges of green lanes, and on green and breezy downs overlooking the sea, as on that fair green hill at Clevedon, from which we look across the water to South Wales, and far away westward towards the Atlantic) it lifts a tall and woolly stem, crowned with some half-dozen gorgeous and half-drooping crimson heads, smelling of honey and musk, and more brilliant in effect than ten thousand of the far-fetched, dear-bought, fashionable exotics in gardens.

All right-minded people thank God every day for His greater gifts and bounties; it is doubtful if any of us remember to thank Him as steadily for the simple and *common* things of nature, which we seem to ourselves to feel as our *right*, or at all events as so much a part of the very idea of the world as to become our lawful inheritance, and thus not needing to be considered as objects of gratefulness. A thankful spirit recognizes the goodness of God in the weakest as well as in the strongest of things; and to my mind it seems that, while I am thankful to Him for the lustre of the evening sky, for food and raiment, for the bestowal of friends, for the sustenance of hope and faith, for the prolongation of life,—though the heart may have sorrowful tombstones in it,—still, I fall short and forget if I am not thankful, too, for the sweet shape, and hue, and odor, of that sea-side thistle, since it possesses not only an immaculate beauty of its own, but, associated as it is with the sound of the waves, and with events long since passed, becomes a keynote forever to some of the sweetest experiences of bygone life. All things deserve such thankfulness, the commonest as well as the grandest, for the common ones are the heritage of the poor, given them "without money and without price," so that it is but simplest philanthropy to be glad of the presence of what all can enjoy without cost.

These, however, are matters rather divergent from the idea of plant life in early spring. The appearance of the buds of the trees is without question the most reliable, since there is a greater steadiness and exactitude in the succession and periodicity of their vital phenomena than occurs in very many herbaceous plants, though to appearance the latter may be quite as regular. It is not a little curious that the renewal of trees by annual shoots developed from buds is a matter of comparatively recent observation. The ancients had a name for the buds of trees; but it was our illustrious countryman, John Ray, a minister of the gospel in the time of the Commonwealth, who first demonstrated scientifically that the increase of trees takes place by means of such annual sproutings. Some of the German naturalists regard the trunk of a tree as a mere mass of obsolete vegetable matter, and the annual shoots as comparable to young plants that rise out of the earth in spring from seeds. To this view of the matter there are, however, grave objections. Every kind of tree has a fixed lease of life; it is competent to acquire a given stature and a definite profile and physiognomy, and until this has been attained, it can hardly be said that the tree is other than a living unity. Be this as it may, the wonderful structure of the buds, and their prodigious powers of life, are, indeed, of the most singular and most striking interest. Every bud consists of a growing nucleus, a little heart of pith seeking to push forward; and overlying it, a number of minute leaves, mere rudiments of proper leaves, which protect the centre from the asperities of the weather, but yield this way and that, correspondingly with the enlargement of the germ in the interior. By degrees true leaves are developed, a slender shoot is protruded, and it may be that in this there is the commencement of a large bough. The outer, rudimentary leaves undergo no change; they retain their places as long as useful, then drop off. The shape and color of the buds are no less various than their economy is admirable. In the beech-tree they are slender and pointed, resembling brown thorns; in the oak, solid and amber-olive color; in the ash, of the blackness of soot; in the lime, yellowish-red; in the horse-chestnut, covered with abundant sticky matter. Every tree, in a word, may be told as readily in the earliest days of spring by its buds alone, as in summer by its flowers, and when in full leaf, by the peculiarities of its foliage. This is one of the great charms of the study of nature. We have always something to fall back upon. Every season writes the names of its trees and plants legibly and unmistakably, but in a different mode. We never need be at loss, since the disappearance of one feature is the signal for another to come into view. The buds open at very various times in the different kinds of trees. The first to come in leaf is the woodbine or wild honeysuckle, which is often in nearly full foliage many weeks before others have begun to move; the elder is also very prompt; and soon after them come those small, green, countless specks in the hedges, that by-and-by are to make the richness of the hawthorn, and become dappled with its crowd of odorous blossoms. Marvelous is it to note the power they have of resisting cold. Doubtless their progress is checked by the advent of a frosty night after they have commenced; the wonder, however, is not that they should be checked, but that they should hold such an amount of inner warmth as to stand proof against the bitterness that destroys tender things from India with a touch. In severe winters many trees are quite killed; but thousands of others prove their invulnerableness, and seem, as it were, to rise from the dead. Many and wonderful have been the miracles wrought for special moral purposes, but no miracle has ever exceeded in sweet and impressive power, the great one that we all witness every spring, when that which seemed quite dead, shows life in unabated energy—and this without the visible presence of a miracle-worker.

Curious is it to note also how many of the buds prepared by a tree never come to maturity, nor even sprout. Buds are disposed so symmetrically upon the branches, that were every one of them to be pushed forth into a twig, and again produce other twigs, there would soon be an inextricable mass, utterly preventive of ventilation and the entrance of light, and the trees would die of self-suffocation. But the economy of nature provides for the premature death and destruction of an enormously large proportion, no more growing than there is ample room for, yet as many as will render the tree perfect and picturesque. So admirable is the dispensation of natural laws, evoking order out of disorder, and making what seems to be injury and loss the very means towards securing the highest beauty and perfection. Such is everywhere a grand characteristic of the works of God: what in our short-sightedness appears defect and blight, is in truth a preliminary step towards the most exquisite and perfect design.

WRITING FOR LITTLE FOLKS.

BY L. D. SMITH.

HOW shall we interest these little folks in the writing lessons? Let them *write*. Children like to talk, and next to talking comes this wonderful sign-language, Writing. Let the little folks write often to learn to write, as you let them talk often to learn to talk, and read often to learn to read. But when you hear them talk or read, you are ready to prompt them, so that they will not fall into wrong practice. They need just the same care on your part when they write. Watch their fingers. Prompt them when they make the written signs, as you would do when they make the spoken ones. Written language should follow very close to spoken language, with the child. He has to repress his voice in a great measure when in school. His mind is bubbling over. Let some of this mental energy work out of his fingers. Let him write as often as you can; never to tire him; never in a hap-hazard way; but under your eye, with care, with thought, with interest.

I know of no elementary branch into which more life and interest can be put than the writing. It gives the children something real to do. It is visible. Above all, it can be read. A child's first writing is to him truly wonderful. Do not confuse the child's mind with theoretical analysis, nor give him fragments of letters to write. The favorite method of teaching seems to be, first, a wearisome practice on elementary lines and fragments of letters; next, a tedious drill on insulated letters and disconnected words; and finally, a monotonous procession of copy-book saws and proverbs. This dull routine has robbed writing of its highest charm as a medium of expressing thought, and has placed the greatest obstacles in the way of both teacher and pupil. How would it seem in reading, if for many months the child was required solely to articulate letters, syllables, and words, disconnected from any thought? Whatever might be his gain in enunciation, would be at the expense of all natural effort and interest.

Make the writing more a natural process. Give your pupils at the start a complete idea, a whole letter. As soon as they have learned a few letters, let them build up little words; and, as early as possible, let them write easy phrases and sentences. Let children write thoughts, as you let them read thoughts, and give them something interesting to write, as you give them something interesting to read. Their writing thus becomes a language to them, the same as their reading and speaking.

Talk to the children a great deal about the writing. Tell them about the letters, so that they will feel acquainted with them. Help them to see how much like the printed signs the written ones are. Write the letters on the blackboards, and attract the eye of every pupil by what you say about them.

The analogies between different letters will be a fruitful theme. We take the little dotted letter *i* first and study it, and when the children once learn to make it, they have only to double it, and leave off the dot, and they have the second letter, *u*. Then, again, the teacher takes small *n*, and shows the children the two parts of the letter. They learn to know these parts, and how to make the letter from them. The teacher tells them, if they just double the first part of *n*, and add to this the last part, they will have another letter, small *m*.

In this way, children will get to be as sure of each letter they write as they are of each word they speak. It is impossible to educate their minds far ahead of their fingers; but the latter will catch up, and will soon do better work for the child's knowing more about it. Illustrate freely on the blackboard; associate pleasant ideas with the letters; make the writing always a recreation to the child—never a task

Primary Teacher.

THE QUINCY SCHOOLS.

BY J. H. FRENCH, LL.D.

EIGHT miles from the Boston sea-shore is the little town of Quincy. Three times in the history of that town it has been very prominent in the public eye of the whole country. When the American people were looking for a candidate for the presidency to succeed Washington, John Adams, a resident of that little town, was selected and elected to the seat of the chief magistrate of the country. And later, the second Adams, John Quincy, the son of the second president of the United States, and also a resident of Quincy, was elected president of the United States. Both of these persons were natives of that town, and the little houses in which they were born still stand in the outskirts of the town. The Adamses were among the first residents of Quincy, which took its name from the family name of John Adams' wife. Very

soon after Stephenson demonstrated the practicability of propelling carriages by steam, a railroad two miles long was built from the granite quarries of Quincy to the sea-shore. This was the first railroad ever built in the United States, and again was Quincy conspicuous in the public gaze.

Upon an examination of the schools in Suffolk County, Mass., by the State Board of Education, for the purpose of arriving at a definite conclusion as to the character of the school work done there, the results of these written examinations were published in a report which has had a wide circulation, and which revealed the fact that the work was not at all creditable to the country or the state, and awakened the people to see the necessity of a radical change in the system of education. This report attracted the attention of John Quincy Adams, a descendant of the older Adams, and chairman of the school-board of the city of Quincy. The school committee of the town, under the leadership of Mr. Adams, determined to take measures for the improvement of schools of that city. For this purpose they invited Colonel Parker, a native of New Hampshire, a thorough scholar in pedagogics, and an experienced teacher, to take charge of the schools upon three conditions: namely, first, that he should have the position of principal for five years; second, that he should have full authority in the employment and dismissal of teachers, prescribing the course of study and the methods of instruction in the schools; and third, that he should have the money furnished him to carry out all his plans. He thought these conditions were necessary to enable him to work out a good system for the schools, and secure such results as would be satisfactory alike to himself and the public. Allow me to say that if the school authorities of cities would give to their Superintendent more power and authority, and then demand from him better results, Quincy would not stand alone in her present enviable position in an educational point of view.

Colonel Parker entered upon his work in the spring of 1875, and at the close of his term of office in 1880, he accepted a position as one of the supervisors of the public schools of Boston. Sylvester Brown, also a native of New Hampshire, and who had been principal of one of the grammar schools of Quincy, under Colonel Parker's supervision, for four years, succeeded him as superintendent of these schools. Mr. Brown's experience as a teacher and his intimate acquaintance with all the details of Colonel Parker's plans, eminently fitted him for the responsibilities and duties attached to the position which he assumed, and which position up to the present time he has ably filled. Under Colonel Parker's administration the work in the schools of Quincy came prominently before the attention of the educators of the country. As proof of this I need only state that more than 14,000 persons visited the Quincy schools during the five years of Parker's time, from 1875 to 1880, and nearly all of that number were prompted to make the visit by the reports concerning the wonderful work done there.

While most of the reports from visitors were favorable, and many of them enthusiastic, some of the visitors criticised the work unfavorably. These conflicting reports made it difficult for a person to decide correctly as to the merits of the work. It is a law of physics that where there is life there is motion, where there is motion there is friction, and where there is friction there is noise. There was noise concerning the schools of Quincy. From this fact it is evident that there was friction there. This friction must have been the result of motion, and as there was motion, there must have been life.

Being desirous of forming an opinion from actual observation, I visited Quincy a year ago, and spent sufficient time in their schools with the Superintendent to make myself acquainted not only with the general plan, but with the details of the work done in the schools. Quincy is a town of ten thousand inhabitants, of which number two thousand are members of the schools. There are seven school buildings and forty-six teachers, with an average of forty-three pupils to each teacher. The houses are commodious and comfortable. They have all needed apparatus for the instruction of the pupils. Their blackboards, which surround the rooms, are in constant use. The school rooms are 25x60 feet, and furnished with single desks (no school should contain any other kind) for from forty-six to fifty-six pupils. These desks are placed in the front of the room and occupy only about one-half of the available space.

Back of the desks are tables, in the drawers of which are objects for the amusement and instruction of the pupils. One table is covered with sand, in which the pupils mark off continents, make mountain ranges and mountain peaks, locate countries, and trace the courses of streams and make lakes, etc., etc., thus making geography a pleasing pastime to the children. And in like manner

all the work in the schools is informal, pleasant and unrestrained. The school work is made so interesting to pupils that they are always anxious to recite. They are permitted, not compelled, to do anything, and all the school work is to them a constant pleasure.

The children talk naturally, ask many questions, and cheerfully and eagerly do whatever the teacher may require. None of the stiffness and restraint so common to children in public schools are seen here. The Quincy order of grading the schools is as follows: The primary grade embraces the first four years of a child's school life; the grammar grade, the next four years, or the fifth, sixth, seventh and eighth years, and the high school grade, the next three years, the entire course course covering only eleven years. It will be seen that pupils who enter at the age of five years and keep up with their classes and grades would complete the course at the age of sixteen years. But many fall behind their classes. The average age of those who finish the course in the grammar school grade is fifteen years. Their general plan of work in all these grades is such that every lesson is directly or incidentally a language lesson. Technical grammar is not taught in the grammar school grade. It is studied by pupils the first year in the high school grade or course. Reading, spelling and writing are all taught together in the primary grades. The first lesson given to a child on entering the primary school is a lesson in reading, writing and spelling. During the first term the children are taught to write and to read writing only. All the work connected with their reading and writing is black-board and slate work.

The work of this period of child life trains the eye, the ear, and the hand to work together. In all the school work the children write much. They talk freely, they tell stories about their lessons, they learn to work and to think. I have said that all their lessons are directly or incidently language lessons. And the ability of the children to pursue a subject of study from a text book is measured and determined by their ability to read it intelligently. Numbers and arithmetic are taught at first objectively, and the knowledge thus acquired is applied to the practical concerns of life in numerous ways that are interesting to the pupils. The pupils are made familiar with business by applying the knowledge thus gained to business transactions. They write business papers, such as notes, orders, receipts, and other business papers. They become familiar with business transactions by explaining the writing connected with such transactions.

The elementary facts of the natural sciences are taught by a systematic course of object teaching to the lower grades, and to the advanced grades by carefully prepared lessons, by the teacher, on the "objective" plan of teaching. When I was in one of the schools in Quincy, one day, I noticed that nearly every pupil had a grasshopper examining it with a small magnifying glass. Suddenly one little boy exclaimed: "I can't see any prangs on my grasshopper's leg like the ones that other boy says there are on his." The boy referred to was requested by the teacher to go to the black-board and draw a figure of his grasshopper's leg as it appeared to him. The boy went to the board and rapidly sketched a grasshopper's leg, with the "prangs" as the other boy called them, in their correct places. The first boy was then told to get the second boy's microscope and see if the drawing on the board was correct, or like his grasshopper's leg. After a careful inspection with the other boy's glass, he found the drawing on the board was correct; thus discovering that his glass was not of sufficient power to show the tentacles, or the "prangs" as the children called them.

The children write stories and relate stories about their reading lessons, their geography lessons, their arithmetic lessons, objects and incidents and pictures. I witnessed a very interesting exercise in impromptu compositions by the A class of the primary grade. In this grade there were about sixty children. This grade corresponds to the fourth-year class in graded schools in this region. The teacher took a large number of pictures cut from the illustrated newspapers and magazines, and each picture was pasted on a thick piece of manilla paper of uniform size. These pictures were distributed among the children, each pupil having one picture. The children were then asked by Mr. Brown if any one had a picture he had ever had before. When it was found that several had such pictures, they were exchanged for others, so that no pupil would have a picture he had seen before. The children were then asked by Mr. Brown if they would like to write a story about the pictures they had. All promptly responded by the uplifted hand. They were then requested to look carefully at the pictures for a minute.

When the minute had expired the signal for writing was given, and all bent themselves diligently to work for ten minutes,

during which time the music of the slate pencil filled the air. Oh! it was delightful music. When the ten minutes were up the signal to stop writing was given. All stopped at once, not taking time to dot the i's or cross the t's. The teacher then asked how many would like to read what they had written about their pictures: "All that do, rise to their feet." All were instantly standing. Of course there were too many for all to read, so the teacher said, "Now the first one that touches me may read." What a rush there was! Every one of those children started pell-mell for that teacher. They did not stand upon the order of their coming, but came at once. One little girl was the first to touch the teacher. She read her story about the picture she had. It was a picture of a horse. She began by describing the horse, then telling what it ate, and its usefulness, etc. It was a very good essay on a horse. Many others made urgent requests to read their stories, saying, "Teacher, can't I read?" "Please, mayn't I read?" "Oh! do let me read!" etc., etc. Some were given permission to read the stories they had written.

Several of the children then read their compositions, while Superintendent Brown and myself looked at the pictures as they read about them. All that had written covered at least one side of a medium-sized slate, while some of the children had covered both sides. All the descriptions were very good. The spelling was correct; capital letters used properly; punctuation marks were correctly placed, and the construction of sentences would have been creditable to a class of pupils much older than these. When a reading class is called, the pupils come forward without books. If it be the second reading class the teacher takes a number of second readers (no special or particular author is preferred) and requires the pupils to read from them without any previous preparation of the lesson. In one class to which I had the pleasure of listening as it recited, a girl in the grammar grade was given a copy of Motley's "Dutch Republic," and requested to read a section concerning the Pilgrims.

After she got through with the reading, the members of the class were asked by the teacher if they understood the matter read about well enough to tell a story about it. Some did not. She then read it again, and catching a better idea of the full meaning, she read it a little differently and better, and the whole class understood it, and were able to tell the story which it contained. So in teaching all branches, every lesson is made a language lesson to some extent. The teaching is mostly from nature, making the objects of nature their text-books to a considerable degree.

Classes are not called, but they come to recitation following the order of a programme which is pasted on the wall of the school room; and they gather around the teacher to have a pleasant talk, as children would gather around their father or mother. The classes are not dismissed in the usual order of dismission in schools, but when their work is done they go to their seats by twos or threes in an informal manner, just as if they were at home. But whether this manner of conducting recitations and dismissing classes is a mark of excellence, is a matter of some doubt. In calling and dismissing school there is a military precision observed. They form in line, single file, and march out, and come in in the same way. Some rooms have a snare-drum to mark the time.

The points of excellence in the Quincy schools which I wish here to particularly emphasize are these: Reading and oral and written expressions of thought are regarded as of paramount importance. In all the work of the schools the teachers are aiming constantly to teach the children to use language. In doing this, language is taught directly and incidentally at every stage of the child's progress. Technical grammar is left for the advanced or high-school course. No telling or prompting of one pupil by another is permitted or attempted. Every lesson is previously carefully prepared by the teacher, and every point in the lesson is made before the class is dismissed. Reading is taught at sight, as I intimated before, and all preparation by the pupil for a reading recitation is made in the class in connection with the reading exercises. The lesson is given but once, thus training the children to do to-day the work of to-day. The lessons are reproduced by the pupils before the class work is closed. The inventive powers of the children are developed by requiring them to use new words in new relations, while the observing powers are constantly active in connection with all the "objective work" of the schools. Daily exercises in writing compositions are required from the pupils in the grammar-school grades, and an examination of the composition books discloses or shows the great value of this kind of work. In blackboard work no pupil is allowed to make erasures without permission or direction from the teacher;

and in all the work of the schools intelligence, good sense and judgment are shown.

We hear much about Quincy methods. I am often asked what I saw new at Quincy? To this question I am prepared to answer, that, while I saw little there to which I could take exceptions, I saw little there that was new. Quincy does not claim to have made any new discoveries in educational work. She claims only to have collected, selected and adapted to her schools the best methods of teaching and management that she has been able to find.

Venango Institute Report.

INGENUITY IN TEACHING.

BY J. A. ZELLERS.

INGENUITY is defined by Webster as "the quality or power of ready invention; the quickness or acuteness of combining ideas;" aptness in expedients. Its synonyms are "inventiveness," "ingeniousness," "dexterity," "adroitness," and "cleverness." The exercise of this power generally involves the operation of several mental faculties, viz: perception, imagination, reasoning, and judgment. The ingenious teacher must be acute in perception, to see what is wrong and what is wanting; active in imagination, to form plans, to correct errors, and to supply deficiencies; sound in reasoning, to determine which of his many plans best suits the particular case on hand; and correct in judgment, to select the proper plan.

The teacher's success depends largely upon his ingenuity. If he has all other requisite mental endowments and is lacking in this, he is, in part at least, a failure.

There are certain established principles which may be said to constitute the science of education, and upon these is founded the art of teaching. It is not alone a knowledge of the science, but also a practical acquaintance with the art, that insures successful work in the school room. He who is a sound theorist, and has at the same time aptness to reduce his theories to practice, is an ingenious person, and may become a successful teacher.

The skillful artist or artisan is an ingenious person, for only such can attain great skill. So, in like manner, the greater ingenuity the teacher possesses, and the better plans he can form to carry out educational principles, the greater skill will he attain in the art of teaching. This, however, is not like the mechanic arts, in which the workman deals with lifeless materials; the teacher has to do with immortal beings. In the arts just named the workmen are all guided by the given rules and measurements; but the art of teaching cannot be reduced to mathematical exactness. Therefore it requires more genius to become a skillful teacher than a skillful artisan.

How to govern each pupil properly, and what instruction to give to each, are subjects that intimately concern the faithful teacher. It therefore requires a fertile brain to be master of the situation in the school room—one that is apt in expedients. The teacher is often at a loss to know what course to pursue under certain circumstances, where he is left solely to his own resources; and here his ingenuity must help him out.

In no line of duty will he find more frequent opportunities to exercise this important mental characteristic than in government. It is said that the teacher should be "a wise legislator, a just judge, and a prompt executive;" and to this should be added "a clever detective," for his skill as a detective is frequently put to the test.

If he has the ready shrewdness to outwit sly mischief-makers, he has all the more influence over his pupils, and they will cause him less trouble.

In the application of methods the teacher must constantly exercise his ingenuity. He hears and reads of methods of instruction and government that are highly recommended, but when he applies them to his school they will not "work;" or they do not seem to be what they are represented. Methods that are successful in one school may be a failure in another. Harness fitted to one team does not fit another, but with alterations it can be made to fit; so methods that work well in one school an ingenious teacher will modify to suit another. Not content with following the ruts of others, he prefers an independent course. By taking direct paths and avoiding unnecessary windings, often the same end is reached, with less friction to all concerned.

So the teacher who has ingenuity to invent methods peculiarly suited to his own school can accomplish much more than he who lacks that ability and uses the methods of others. To accomplish most in the school room, the teacher must be independent, and no one can be this who is devoid of ingenuity.

He must constantly be planning to vary the mode of recitation. Monotony wearies the most earnest and active pupil. The

more variety in recitation, the better the interest of the classes can be sustained. When pupils expect something new at each recitation, they go to it promptly with well-prepared lessons, and await impatiently the recitation period. The earnest teacher who has the ingenuity to secure this variety is the most successful.

The teacher must possess ingenuity to assign lessons properly, That in the book may be too long or too short, or not suited to the class. In using his text-books he also finds ample occasion to employ this faculty. These are frequently a source of vexation to the teacher, for often they are not at all suited to the wants of his pupils. They may contain too much matter, not enough, or not what is desired. But they have been adopted by the proper authorities, and must be used to the best purpose. Hence he should be able to construct original lessons, especially review lessons, and should also add matter of his own to the lessons at recitation. For this reason he must not only know more about the lesson than what is contained in the text-book, but must have readiness of invention to know what needed instruction to give, and how to give it.

In the construction of a programme, ingenuity is again an important requisite in the teacher. Upon the proper arrangement and distribution of the time for study and recitation depends to a great extent the efficient working of the school. Every school needs a special programme and to make it often puts the ingenuity of the teacher to the test. In many cases the programme for the previous term, or of another though similar school, will be in some respect unsatisfactory; nor can much aid be had from many of the ideal programmes published.

True education cultivates the mind of the pupil, qualifies him to become a useful citizen, and arms him to fight the battle of life; therefore the most important result in teaching is to so shape the education of the pupil that what he learns may both cultivate his mind and be of use to him in future life. To do this requires such skill as only an ingenious teacher can attain. The true teacher is an artist. As the artist sees the image in the block of marble, so the teacher sees the future man or woman in the child.

This mental quality, like any other, can be cultivated. All rational persons possess it in some degree. Those who are most gifted by nature stand upon vantage ground, but others need not despair, for "Where there's a will there's a way."

THE NEW METHODS.*

BY C. F. CARROLL.

WITHIN the memory of the youngest teacher present the manner and spirit of teaching children have changed. This revolution appears to make slow headway, but a wise teacher, or a skilful school officer, may be sure of success in any sustained attempt to promote it. Educational journals are successful in proportion as they deal out these coveted doctrines. The science of education is not new. It has had a large place in philosophy from the very first. But with the development of psychology, it has become truly a new science, capable of being expressed in formulæ, and in many particulars of being studied and practiced as an art.

There are many well-defined and simple principles that each successful teacher, consciously or unconsciously, ever puts into daily practice. Many of the principles can be found in the written theories upon the subject. There is, in other words, a valuable and growing code of teaching. The statutes of every Commonwealth protect its members from the lawyer and the doctor, who have not mastered their respective codes, and even the expounder of divine law is but coldly received and of doubtful usefulness, unless he has made the same effort to master fundamental doctrines. But there is no such safeguard offered against the teachers of limited preparation. The community is ignorant of the professional fitness of applicants. No standard is imposed. Under these circumstances school life is hateful to the average child, and a slow way of committing suicide to the average teacher. This is but a natural consequence. We are trying to do the highest work ever committed to man, and we have neglected to gain the simplest directions for our work. We are ignorant of our code, and professionally we are in the dark.

To be truly successful as a teacher, at the present day, is to meet with an accident. If there is a code of teaching, if there is a science of mind, if there is an order of development, and if we are ignorant of them all, we must expect little benefit from our instruction, and to look upon life as all in a cloud. We are always beyond our depth. In many cases, if we could fail early, so

*Lecture before the Venango County Institute, Oct. 16, 1882, by Supt. C. F. Carroll, Oil City, Pa.

completely as to bar us from the profession, the world would be benefited, our happiness increased, and our days lengthened.

All the above statements are accepted as true, though we shrink from making a self-application or self-examination. We are all, I believe, in search of the grand remedy that will make our lives happier, and our teaching more successful. But we seek only for some external remedy. We see the success of another, and attempt to imitate it. Their success becomes our failure. Their inspiration was all from within; ours is all from without. To speak, then, of the peculiar way in which some very successful teacher conducts the study of reading or geography, *might* do more harm than good. The new methods may lead us into a new rut, worse than the old one, because we may now depend *entirely* upon the borrowed brains. The shortest cut to an intelligent use of the new methods is to study the new methods with the *s* omitted. It is the new spirit in education that we seek; the new purpose, the new aim. A dirty, ragged, neglected child is our subject-matter; the best man in the community, the noblest character that we have read of, the holiest being that has walked among men, these are our models on which we are to fix our eye. We are to be artists, we are to make men.

First, then, we must know something about children. The sight of children is so familiar, that, unaided, we shall not be likely to make much headway in a study of the human mind. We must call in the experience of others, in order to find out how the child grows; what he can eat at a given period, and what he should not eat; what it is best for him to learn, and what he should not attempt to learn. The mind and body are much alike in many respects; and what affects one is likely to affect the other. The mind has a regular growth, just as much as the body; it grows with the body. What is the proper food for the mind at a given period and how to administer it, are to be learned very much from the science of education, and from the faithful study of psychology. The manner in which knowledge is gained through the senses; the power to retain and to recall what we learn; the ability to frame new images from those already framed; the habit of asking the question, Why? and to know and to state that a certain conclusion will follow from certain premises—all this we may learn from the study of psychology.

Do we know how to bring the senses into use? how much depends upon their right use, all through life? Do we know how to improve the memory and how to destroy it? Do we know that independent, abstract memory, scarcely can be said to exist at all? Do we know when the mind must delay, and when it can safely advance? what it is our part to do, and what we can never do for a pupil? Do we know that all knowledge tends to unity, and that different threads should at last form one? If we know less than all this implies, we are blind guides to groping children, whose hungry, helpless, beseeching lives we seek to fill up from our empty ignorance.

Again, we must become as children, or a correct knowledge of all the formulated science and art of education will avail us nothing. It is not enough that we have a kind heart. The pupils must feel it. We must gain their confidence, or we can never know their natures. We must see within their lives, and dwell within their hearts, or we can not wisely impose laws for their improvement. If we cannot smile to a child with more than a forced distention of the face; if we cannot say "Good morning" with the falling inflection; if we shrink from the touch of children; if they dread to be alone in our presence; if we cannot find real pleasure in talking with them of what lies close around them in their realm; in short, if there is not within us a chord that is awakened by the ever-rising confidence, sympathy, love, or deep respect of children, the first condition to our success in teaching school is forever violated.

Second. We gain knowledge by experience. In this way a child must learn. A definition does not increase our knowledge. The thing must exist in the mind before we can describe it. A definition is a description, and we cannot intelligently describe what we have not seen. To define correctly is to see correctly; seeing must precede defining. This does not apply to the beginner alone. It is as true of the college student as of the child in the Kindergarten. If a child has already passed the favorable time when he may most easily be taught to learn aright, his experience should extend both forward and backward, or he is still defining and describing what he has not seen.

Set a child to the task of learning common fractions. Teach him the process of reduction by mechanical means, so that he may add and subtract fractions without error, and yet his knowledge may not be increased thereby. Go a step further and cut apples in halves and thirds, showing the

former to be the larger, yet here few teachers give to the child any reality or experience. It is not enough to say that for a month we have repeated the process. The different parts should change as quickly as the shifting colors of a kaleidoscope, blending into sixths by an unconscious process of the mind. In real knowledge, these intermediate steps are not consciously performed.

The study of the sciences on the old plan has been discarded. It is not enough that we name a few specimens hidden in a musty cabinet. Geology lives under our feet and in the mountains that rise above us. Every word we learn or read on this subject, must find its application in the reality, or the theme becomes a useless burden to our memory.

It thus appears that to acquire a mastery of advanced knowledge, we must first acquire a complete acquaintance with the particulars involved. This will help to explain why teachers in upper grades fail to gain the expected results. The foundation work has been neglected. The child does not possess the necessary power nor the necessary experience with details More clearly does it show that every teacher in advanced grades should be entirely familiar with the principles of elementary instruction, and with the better method of teaching school.

All schools in existence in this country to-day are probably deficient in this most important respect. And yet few teachers in grammer grades are willing to inform themselves thoroughly concerning primary work. Until they do this they can scarcely discover that any deficiency exists; much less can they supply the need. Either teachers trained to primary teaching or grammar grade teachers who have studied the art, must eventually succeed to their places. We cannot wonder that children draw long sighs. They are alone in the dark, longing for some labor that they can comprehend. They early break away from school and seek a task that they can perform with eyes wide open, where they may be conscious of at least small successes.

Our easiest illustratior of this part of the subject would be found in connection with primary work. But this part of teaching is so distasteful to some teachers that I have attempted first to approach the difficulty from the opposite direction. We may thus have seen more clearly the dignity of primary teaching, and may learn more of the unity of all teaching.

Perhaps Reading affords the best illustration of the value of the new method, in the beginning of education. Words are simply a necessity to convey or recall an idea. Before entering school, children will not use words faster than they are needed to enable them to make themselves understood. The first step in reading is to learn to recognize the thoughts that are common to our own mind, when represented in words. This condition must always exist. The thought must be common to the experience of the child, or he would not recognize it. He must see the thought and not the words, or he is reading words and not thought.

Reading, then, is thinking aloud the thought of another. It is clear, then, that we cannot read one word at a time. This shows at once the cause of poor reading and suggests the remedy, viz.: 1. A complete mastery of all the common words in our vocabulary, in their various combinations; 2. An acquaintance with the objects and actions that these words are intended to suggest. We see from this why every good primary reading book describes only objects that are familiar, or the actions of these objects. How soon we begin to violate these principles, and how deplorable are the results, need scarcely be rehearsed. Children are pushed through one reading book into another, into a class of reading fit only for the comprehension of wisdom and of age.

The ground-work of Reading is but indifferently laid, since we apply no satisfactory test. This test is found only in subject matter new to the child. We can form no compromise here with the old method. It was wrong from the beginning. If we can measure the evil, we may proceed towards its reform. For this faithful beginning, only, we are responsible. A machine grade must not stand in our way. Reading, writing, arithmetic, and grammar, are all naturally arranged in steps. Missing gaps should at least receive our considerate attention, and a reason be given for their further neglect. Our plan should contemplate the true interest of the child, and the grade will, in the end, take care of itself. Throughout, endless repetition, so determined as to stamp every impression in indelible lines, and so varied and spirited as to avoid monotony, are the simple, yet rare accomplishments of every teacher that leads pupils into any permanent acquisition of knowledge.

Third. Pupils must learn self-reliance by practicing it. This acquisition is of first importance in the new education. From the first, we should give a pupil a chance to do something for himself. Teaching is

substituted for talking. The conversational spirit must prevail, and the silence of the class is to be broken. We profit most by conversing with those who know more than we do. But children shrink from this first step in self-instruction, as from impertinence. The question of an honest pupil should do three things: 1. It should supply the particular information which he needs; 2. It should acquaint us with his whole being, and show us how to do the most for him, mentally and morally; 3. To answer such questions should give us our best inspiration.

We gain most of our knowledge by some kind of a question. If we look intently at any strange object, our interest is but a continued, unexpressed inquiry. The world forces inquiry upon us at every step. We become learners in proportion as we ask respecting all we meet, and we are learned in proportion as we insist upon an answer.

We do not need to prove that the school of to-day makes the pupil practically dumb. It is only here and there that we find a free and honest questioner. To stimulate inquiry is the highest art of teaching; it is in fact all that we can do. We can put nothing into the mind, for we have no entrance there. We can make the conditions more favorable, we can remove some obstacles in the way, but the effort to take a single step must proceed from the will of the child. If, then, the genius of our schools tends to stifle inquiry, and to check every spontaneous tendency to growth, our entire effort must be misdirected, and any real acquirement must be accidental. The mind grows from within, grows by nature, in a thousand directions, when free to act.

Now in nature and in life, we get the object or the action and give the idea in words, and the former is evidently of the first importance. The latter must follow. But in school, where we spend a large fraction of human life, we forcibly check the spontaneous growth of knowledge, limit the range of observation, and for the most part gather an untenanted mass of definition and rhetoric. Self-dependence, in such a system, is out of the question. The bare memory, struggling at a world in confusion, is helpless when unassociated and alone. The true experience, the reality, flees farther away, and when the diploma says, "educated," in large letters, the subject has reached the last stage of helplessness. Self-reliance must rest upon a consciousness of practical experience or knowledge, gained step by step; for no other advance is possible.

The business world has demanded what we cannot, at present, supply. The quick-witted boy from the gutter succeeds before the high-school graduate, because in one case self-dependence converts every obstacle into success; while in the other, the repression of ten years or more has shut both eyes and ears, blunted the perceptions, and doomed the child to a long and humiliating dependence.

Self-help and self-activity should be early awakened. We tell pupils only what they cannot learn themselves. The child should know nothing but self-help and expect nothing but complete success. The desire to do something will impel the mind, and we have only to determine the direction. Eye, ear, hand and voice will fill the soul with images of the realities about us, if we do not turn the school into a prison-house. Children will work, when unfettered, and if we set them to the right material, and give a right model, they will labor ungrudgingly and produce forms of infinite beauty and perfection.

The Kindergarten is the best school for little children, because their powers are here allowed to work freely, and each does something for himself in his own way. Invention is but another name for self-help. It is true that the genius of the Kindergarten is to do work and think it play. Yet it is work done by the child's own inspiration; and in this sense all the after-work of education should be transformed into pleasurable effort.

We should create no difficulties for the purpose of cultivating self-reliance. They should grow out of the lesson, and not be attached to it. There is no lack of difficulties, and the first important step in all education, in learning or assigning a lesson, is to clearly discover them. As we advance in knowledge, the difficulties should increase in number but diminish in degree. The later difficulties of the learner are solved largely by the use of what he has before acquired, and herein appears the importance of humble beginnings. Here we need to be concrete, or we shall lose ourselves in familiar generalities. To describe accurately is one of the first pleasant yet difficult feats attempted. To tell what we have seen, implies simply that we have seen it well. To see well to-day is to remember well to-morrow.

To describe a simple cube will require many efforts; we must count or *think* its corners, edges and sides; we must think of its weight, its hardness, its color, and look about for forms that are like it. We must perceive of the plane surfaces that make up the sides, of the angles and straight lines that

bound them, and of the material of which the cube is composed. All this implies the most careful, repeated, persistent, individual effort.

Attempt to describe matter that is organized, a living object, and even the common and formulated knowledge concerning the commonest animal can be stated only by the specialist. It is said that we do not know what we cannot correctly describe in words or on paper. If this be true, our knowledge becomes almost insignificant. Certain it is, that the poor expression and confusion of thought that marks school children could be remedied in part, if all their acquisitions were put into correct expressions of their own. Yet it should be borne in mind that the expression is not the knowledge, but only the test of it. The Kindergarten has this advantage, that no test is needed, since every pupil performs the act, makes the cube, handles its form, and takes in knowledge as we do in the world. Do I need to add that these first and last obstacles in the school-room are not removed? Do we begin to ask, Is it I? Do we reply that we must not stop to correct the deficiencies of preceding grades? It is probable that we could not in many cases define the deficiency, and we can therefore only in general terms lay the blame of all our failures at the door of our predecessor.

In any event the obstacle remains. From the very first they accumulate. We do not wait for growth; our class would not seem to be progressing. The recitation is never a success. The child falls back on the book, and in pity we say we cannot expect children to know everything. Every recitation should be a success. Its obstacles should be seen, and when once proposed, pupils should expect to remove them. It is not in the nature of children to fail to accomplish what *engages them*. The hard games, and long tramps of children, are always successful and always delightful. There is inspiration in numbers, and the very best exhibitions of work in the spirit of play should be found in the school-room in every grade of school work.

The sentiment of the school-room should not allow a pupil to ask help where he can get it himself. It should not allow him to pass a word whose meaning he does not understand, or a sentence whose meaning is obscure, or a symbol or combination that is only half mastered. The new method expects all a child's energies to be directed into agreeable effort that will lead him inevitably forward. Repression, idleness, discipline, lack of keen, constant search for something new; any and all of these show how far we are from the practice of the new education. Am I too severe when I say that we can find only here and there the spirit, much less the practice, of this system? Tradition has us fast, in spite of our rising interest. To smile at the theory is to shut out every ray of light from our daily life.

Thus I have placed the responsibility of leading every child into habits of self-reliance entirely at our own door. There can be no education that leaves it out, nor has any pretended system yet successfully illustrated it. This power itself has furnished the world with every inventor, pioneer, leader, and wise man that ever lived. To implant firmly this spirit in a child is to furnish a successful man to the world.

The features of the new education that I have sketched are but different views of the same subject. Our own knowledge of the child is the intelligent source of all our new theories; the experience of the child is but an application of principles that follow from our psychology, and the self-dependence of a child is a natural habit, for whose growth we are to provide the conditions. The new education begins with every opening, spreading faculty; follows patiently in its slow but steady development; discovers what the faculty would do if left alone, and thus discovers how to train it. We are studying nature in its most interesting, in its divine form. We train a human plant much as we train a choice specimen in our garden, in a systematic, a business-like manner. This is the only road to the practice of the new system. The page of crisp statements given in the educational journal of the day merely tells what some one else has felt or seen; but suggestive as these principles may be, they must become inhabited by our own living reality before we can read aright.

We have discussed the question from the standpoint of the teacher and of the pupil in its spirit and aim. We might and we should consider further its particular application to the body, the soul, and the moral being, linked together as they are so closely that education must shape them all and at the same time. Finally, we should ask ourselves how we are to develop the method of instruction, and here we reach the part of our subject that is generally studied first. Short-sighted instructors, with low aims or no aims, begin here and end here. The subject will never be found in what some one has done before us or around us. We

have, it is true, a legacy of noble reason and philosophy; but the child that God made to be like himself, to grow into his own image, must be known to us, or we shall hold the mind back from its best treasures, and by our blind guidance lead the soul from ignorance into error.

A WAY OUT AND ONWARD.*

BY W. G. WARING.

IF I had sooner seen the sprightly and excellent account of model John Dean's talk with his pupils at a school on the Pacific coast, as given in *The School Journal* for August, '82, p. 60, I should hav felt prompted to suggest to our county institutes to unite in petitioning the printers of their county papers to set an example of making a beginning in practical spelling reform. They are the arbiters in the case. If they set the example, all wil follow. We profess to teach spelling in schools through the ear, but we actually learn it, as we read, through the eye, and the papers that ar pickt up daily, soon render us all familiar with all forms of word dress, regular or irregular.

Let members of Institutes turn to the article, p. 60, and make a note of a resolution to be introduced at the next county meeting. It will be easy for teachers to obtain a general signature to such petitions as the following (one for each paper) and to forward them with the ready printed slip attached:

Messrs. ———, of the ———:

Gentlemen: The Teachers of this county, at their late institute session, resolved to petition the editors and publishers of the county papers to join in the commencement of general spelling reform by adopting as far as they conveniently can, the recommended initial changes in English spelling—a greatly needed reform, for which our time is fully ripe.

SLIP TO ACCOMPANY PETITION.

In compliance with numerous petitions from different schools and school districts of the county, and in accordance with resolutions passed at the County Institute, we wil endeavor to use the following changes of spelling, so far as habit and convenience will permit:

1. Omit *a* from the digraph *ea* when pronounced as *e* short, as in hed, welth, etc.
2. Omit silent *e* after a short vowel, as in hav, giv, infinit, forbad, etc.
3. Omit the last of double letters ending words, as in shal, wil, clif, eg, gram, etc.
4. Put *f* for *ph* in such words as alfabet, fantom, camfor, telegraf, frenzy, etc.
5. Change *ed* final to *t* when having the sound of *t*, as in lasht, imprest, fixt, etc.

* The spelling of the author has been followed.

The first printers, who lived in days when oddity was supreme, and all writing a mystery, to be made more mysterious if possible, fastened upon us the monstrosities of our orthography. It is for the printers of this new, rapid, reforming time to retrieve the sad error, and take steps towards delivering our language, and all who have to learn to read and write it, from the infliction. And it is for those who see and know the immense loss to schools and to civilization entailed by these orthographic difficulties, to join in making some beginning towards removing them. A beginning made, the charm wil be broken, and there wil soon be a general demand for systematic and adequate reform.

When a correction of the spelling of English began to be persistently advocated, now a generation ago, men of letters were its opponents. Their daily dealings were altogether with words in their written and printed form; they were learned in the old languages, and by habit devoted to the antique and the bizarre. The idea of changing such picturesque and familiar forms as *rhythm*, *prince*, *knit*, *musick*, *epilogue*, *reason*, into *rithm*, *prins*, *nit*, *muzik*, *epilog*, *reezn*, was startling, and at first so abhorrent as to induce these dignified men, in the lack of sound reasons, to heap ridicule upon the spelling reformers and their papers; making as much as they could of the one argument that if *know* was written *no* we should not see that its derivation was from the Greek *gnomi*, or if *debt* were *det* its derivation from debitus would be obscured. But of what account are these etymologies to the busy practical workers of now-a-days? Why clog our schools and all our reading and writing with such a load of old lumber, to be found in the dictionaries at any time by the few that ever, once in their life, want to look it up? Men of letters, philologists in particular, and writers in general, are too clear-headed to fail of seeing that in their first surprise they started on the wrong track; and they are now, with scarcely an exception, the most earnest advocates of reform. The only thing in the way now is the inertia of the busy mass who do not want to be put out of the ways and habits that have been ingrained by long practice and use. Yet among these who care least about letters we find changes for the better taking place. The gambler's game once called the Pharaoh bank, has been reduced to *faro*, by men who care more about play than about letters; and the busy, but mostly illiterate farmers have had their *plough* and their *axe*

written *plow* and *ax*, and we begin to see *sithe* for *scythe*.

This reform must be initiated by the newspapers. Printers fastened the irregularities upon the language; they alone can retrieve the misdoing. If they will begin by accepting and acting upon, say the first five rules of the Spelling Reform Association, viz.:

1. To drop final mute *e*, as in *hav, giv, gon*, etc.

2. To drop one of two double letters, after a short vowel, as in *wil, shal, ful*, etc.

3. To use *f* for *ph* and *gh*, where equivalent, as in *laf, alfabet, telegraf, enuf*, etc.

4. To drop the *a* of *ea*, short, as in *hed, dred, welth*, etc.

5. To use *t* for *ed* when equivalent, as in *dropt, fixt, cupt, kikt, laft*, etc.

This beginning would be sufficient to break the spell, and to familiarize the public eye with words in plain dress. The only legislation necessary would be provision for an international commission or institute composed of competent members from the different English-speaking countries, to decide upon and give authority to the form of alphabet and mode of spelling that a select sub-committee should report favorably of, and to legalize it in the public schools, leaving the present generation undisturbed in their habits or preferences. The new generation, phonetically trained, would, when they hold the reins, soon, and once for all, disembarrass themselves and the language of the whole load of *hetero*-graphic difficulty. The adoption of Arabic numerals, and of decimal notation, and the new style of counting time and dates, were great reforms, carried out in less enlightened times. This greatest reform is worthy of our age, and should be at least initiated before our day has passed. If adopted in time it would render our written language, then easy of acquisition by foreigners, soon the world-wide, universal language of science and of commerce, and make our schools incomparably more efficient in teaching useful knowledge.

True spelling is to make every letter tell the truth, the whole truth, and nothing but the truth. To have to teach a child that p i g is *pig*, but that p i g-e-on is *pijun;* or that l a u g h-t e r is *lafter*, but that s l a u g h-t e r is *slawter*, is to abuse and spoil the mind and morals of the child. He ceases to reason when reason is no guide. And the labor and worry entailed upon teachers are immense. Suppose we had silent *figures* in our Arabic notation of numbers—that 279 for example meant only 27, or perhaps 79, or perhaps 29! Prof. Lounsbury, author of the able article in the December *Century*, in advocacy of Spelling Reform, justly says that to accustom people to see examples of proper phonetic spelling is worth more than all the arguments that have ever been devised.

SCHOOLS AND THEIR NEEDS.*

BY H. B. JACOBS.

WE have come to our annual convention for the purpose of discussing important questions pertaining to the general interest and welfare of our public schools, to renew our zeal, and catch new inspiration for the work we have undertaken, that we may be better fitted for the responsible duties of educators of youth.

No one will doubt that the design and objects had in view, by those who organized this Association more than a quarter of a century ago, have been fully realized. The leading school men of Indiana at that day (some of whom, we are happy to say, are with us now), were thoroughly imbued with the idea "that the material prosperity of a state depends on the intellectual and moral training of the people." Hence this Association was organized for the purpose of presenting new and advanced methods of instruction, and awakening a deeper interest in the cause of public education in this State; and well has it accomplished that purpose. Indeed it has been a central agency in the development of our school system, having done much towards raising the schools of Indiana to the high plane of efficiency which they have reached. The enthusiasm in this important field, enkindled among those who have attended its meetings, has affected, in a greater or less degree, those teachers who have not attended its sessions, so that the influence of the Association has been far-reaching, even touching the boundaries of the State in its sweep. It has given an impulse that has been most marked in all our educational interests.

What our schools most need now, is better trained teachers, and an abler and more conscientious class of school officers, *especially the latter*. As I have said, this Association has done much to advance the educational interests of our State, but, hitherto, most of the time of our meetings has been spent in discussing methods of instruction

* Extracts from address of Prof. H. B. Jacobs, late President Indiana State Teachers' Association.

and subjects to be taught, and in listening to able addresses and papers on "Moral and Mental Training," "The Importance of Higher Education," "The Relation of the Schools to the State," "School Government," and kindred subjects. We have almost overlooked one important factor in all this work—namely, the teacher, who is to assume the important and complicated task of the moral and mental training of pupils. We may discuss here freely and fully *what* to teach, and *how* to teach, and present beautiful theories as to the general management of schools, but to get teachers to do good teaching and to put our theories into successful practice, is quite a different thing. Instead of discussing longer what to teach, might we not employ some time profitably in discussing what *not* to teach? It does not matter so much how few or what branches are set down in the curriculum; if the teacher be broad and skilled in the art of teaching, the pupils will be kept employed so that they may acquire habits of close application, and they will receive all the instruction necessary to discipline and the development of their mental faculties. Ralph Waldo Emerson's remark to his daughter, "I do not care what you may study, I only care to know who is to be your teacher," is full of significance.

Good teaching does not consist in teaching many branches, but rather in teaching a few things well; in presenting a subject in an interesting manner, and in looking at it from many points of view; in leading pupils to see a truth in all its aspects, with its antecedents and consequents. To be a full teacher one must have more than scholarship and correct intellectual habits; he must have experience, observation, and judgment, and a knowledge of human nature—things not learned from books. He should understand the philosophy of education—the principles that underlie the moral, intellectual, and physical growth of the child. Besides he must have a foundation of common sense, and an acquaintance with the common aims and hopes of the masses. Yet how many there are, who attempt to teach school without a tithe of such equipment. How many there are, not only in Indiana but all over the country, who enter upon the important duties of the office of teacher, just as they would enter upon any piece of mere job-work, to which any one may turn his hand without previous thought or preparation.

Is it to be wondered at, then, that much of the pupils' time in school, in many instances, is spent in a misdirected effort to acquire a knowledge of subjects presented in an illogical and pointless way? Is it to be wondered at, under such circumstances, that much of our teaching, instead of invigorating and expanding the mind actually stupefies it, and fails to enkindle a desire for higher acquisition? Some one, no doubt, will be ready to affirm that we have in our midst some very successful teachers, who entered upon their work without any special preparation for it. But who can estimate the amount of botch-work they did, the amount of valuable time lost, and the number of intellects more or less blunted and dwarfed, while they were acquiring their proficiency? Who among us does not look back to days, and months, and even years—precious time to us—passed at school, in an unprofitable, if not absolutely injurious manner, under an incompetent teacher, trying to carry out a barbarous system of instruction?

That the highest results attainable in our public schools may be reached, we need more competent teachers. The possibilities wrapped up in a child are too great to leave the developing and strengthening of its faculties to chance, or to the inexperienced and superficial in matters of education. The State owes it to herself to see to it, that the unfolding of the minds and moulding of the character of her children be intrusted to skillful hands, and not to the unskillful and thoughtless. The people should realize, in fact we should all realize, and urge it as a truth that can not be gainsaid, that it is infinitely wiser, and much more economical, to be taxed to train teachers for the profession of teaching, than to spend money every few years for text-books.

Some months ago, while on a visit East, I had the pleasure of visiting the Boys' High School of one of our eastern cities. I was impressed with the manly bearing of the pupils and the earnest and enthusiastic manner in which they engaged in their work. Every one seemed inspired with a desire to acquire some new, higher knowledge. Somehow the very atmosphere seemed to impress one with the fact that there was thorough training in that school. In conversation with the broad and cultured principal, he said: "Mr. Jacobs, we do not attempt to teach everything here, but we aim to teach some important things well. We aim to fix firmly in the minds of these pupils some leading truths of the subjects they are studying, and the rest will take care of themselves. We are teaching," he continued, "also the gospel of wonder. When we

have aroused a spirit of *wonder* in the minds of these boys, getting them interested in their studies, so as to wonder at the truths presented; when they become awake to the wonders of the heavens above and the earth beneath; when they wonder at themselves,—we think we have made excellent progress in their education, and in preparing them for future usefulness." He said more. "We have been in this building," he remarked, "now seven years. You see the surroundings. I have not seen, in all that time, a scratch or mark of any kind about this school, that would indicate an impure thought on the part of any one of these pupils. I do not speak of this to boast of it. I know what boys are. I only give you the facts."

Who can estimate the value to any community of the teacher who can exercise such moral influence over a hundred boys who come, each year, from all gradés of society in one of our large cities. The class drills in that school were indeed intellectual feasts of useful, quickening knowledge, of which the pupils partook with a relish. We felt it was good to be there.

Give us more broad, liberal and enthusiastic teachers, who know how to teach this "gospel of wonder;" teachers who can invite their pupils to intellectual banquets, and lead them to wonder at the beauties of language, to wonder at the intricate combinations of numbers, to wonder at the heavens above and the earth beneath, and at themselves; teachers who can lead their pupils to push out the boundaries of their thought and enlarge their mental capacities, and who can create a thirst for investigation and knowledge.

But I am also forced to admit that we can have little hope of securing more competent teachers, until we have a better class of school officers. Until our local school management is placed in the hands of men who are able to appreciate the *ability and worth of experienced teachers*, and who can rise above sectarian and party prejudices and influence, and discharge their duties conscientiously, there will be little encouragement for men and women to spend their time and money to fit themselves for the profession of teaching. *Indiana School Journal.*

A SACRED burden is the life ye bear;
Look on it, lift it, bear it solemnly,
Stand and walk beneath it steadfastly;
Fail not for sorrow, falter not for sin,
But onward, upward, till the goal ye win.

Frances Anne Kemble.

ADVANTAGES OF IGNORANCE.

PROF. F. W. CLARKE.

THE occasional blissfulness of ignorance has long been the subject of one of our most popular proverbs. Coupled with a positive statement as to the folly of wisdom, it passes from mouth to mouth with the authority of an oracle. But the support given to the dogma is usually of a passive kind. The doctrine is stated, but not defended; while on the other hand our journals teem with arguments in favor of education, upon the importance of schools, and about the best method of electing school trustees. The fact that the latter too often represent in their own persons the advantages of ignorance—that educated men too seldom attain to such superior positions—is never urged with anything like proper vigor. Education in one's self imbues one with prejudices concerning the education of others; and such prejudices, with their attendant partialities, some think, should be excluded from the management of public institutions. Accordingly, in actual practice, uneducated men are sometimes placed as supervisors above thousands of teachers; and thus, in spite of the schools, the superiority of ignorance is clearly demonstrated.

In every walk in life, in all professions, a similar superiority is daily manifest. At the polls, the trained and intelligent statesman is defeated by the loud-mouthed stump speaker, who knows nothing of jurisprudence, less of political economy, and only enough of finance to be able to draw and spend his salary with commendable regularity. The broadly educated, highly cultivated theologian is surpassed in popular esteem by the swaggering revivalist, who tears up human feelings by the roots as a child pulls up sprouting beans for growing the wrong way. In medicine, the quack has five times the patronage of the well-informed physician, and makes a fat living where the latter would only starve. Sick people are fond of liberal treatment, and like to be thought worse off than they really are. You have a slight cold, and the good doctor charges five dollars for curing you. But the brillant empiric calls it congestion of the lungs, diphtheria, or pneumonia, visits you twice as often, and charges you three times as much, and you feel that you have got a great deal more for your money. Your ignorance chimes in with his, and both are better satisfied. Your stomach-ache is magnified into gastric fever; your boil becomes

an incipient cancer; a slight chill indicates approaching typhoid. The quack flatters your self-love, exalts your own importance in exaggerating that of your disease, comforts you with a good, sympathetic scare, and depletes your veins and your pockets with admirable equinimity.

The old saying that "Fools rush in where angels fear to tread" affords another argument in behalf of fools. To be sure, the natural history of the angel species has been but imperfectly studied; yet here again our very ignorance helps us. Theoretically, we should all like to be angels; but, practically, we prefer to stay where we are. Besides, familiarity with angels might be exceedingly uncomfortable; especially if they should take it into the ghosts of their late heads to visit us in spook-fashion, with the accompaniments of blue-fire and winding-sheets.

But to the point again. Education makes men cautious and calculating; careful of precedents; afraid of mistakes. Many a time the brilliant audacity of a daring ignoramus has achieved successes which would have been unattainable to orderly skill and training. Lord Timothy Dexter, that most inspired of idiots, sent a cargo of warming-pans to the West Indies. The natives took the bottoms for sugar-scoops and the perforated lids for strainers, and Dexter gained a fortune out of his ridiculous venture. Zachary Taylor, whipped by a Mexican army, was too bad a soldier to be conscious of his defeat, and kept on fighting. His adversaries, astonished at his perseverance, thought he must have hidden reserves, and incontinently ran away. Thus Taylor won the battle, as contemporaries say, "by sheer pluck and awkwardness." "Against stupidity the gods themselves fight powerless." Stupidity, therefore, by all the rules of logic, must be superior to sense, and truly deserves, over all competitors, the crown of laurel.

The advantages of ignorance may be further illustrated by a reference to the disadvantages of omniscience. Suppose one of us could know everything, past, present, and future—how uncomfortable he would be! Looking back into remote antiquity, he might behold his ancestral ape engaged in the undignified performance of catching fleas. Turning with disgust from the past, he would find in the present many things as humiliating. Misunderstandings, bickerings, hatreds and slanders, unknown to ordinary men, would stand revealed before him. And from the coming time he would anticipate trouble and misfortune; he would see approaching evils far off in the dim distance; and not even the knowledge of attendant pleasures could quite unsadden him. To know everything would be to learn nothing—to have no hopes and no desires, since both have become equally futile. After the first excitement, one would harden into a mere automaton—an omniscient machine—with consciousness worthless, and volition a farce. Had Shakspeare been able to foresee his commentators, his greatest works would never have been written.

There are two sides to every question. Like the god Janus, all things are double-faced. Knowledge is not unalloyed good; neither is ignorance unadulterated evil. If ignorance were abolished, how many teachers would starve for want of occupation! Were all fools to become sensible, what would the knaves do for a living? The ignoramus, so long as he is ignorant of his ignorance, is comfortable and self-satisfied. The educated man sees how slender his attainments really are, and discontentedly strives for deeper knowledge. Let us be impartial, whether we praise, blame, or satirize. Blessed be stupidity, for it shall not be conscious of its own deficiencies. *Popular Science Monthly.*

TOO MUCH READING.

IT is no doubt true that the mental habits which are necessarily fostered by much newspaper reading—the cursory skimming of paragraph after paragraph, reading with the eyes rather than the mind—have much to do with a certain lowering of the mental key-note which is observable in nearly all classes of society at the present day. The reports of public libraries all over the country show the reading habit to be rapidly gaining ground. To a certain extent, this is doubtless a good thing, and yet it is quite possible that there may be too much of it.

Whatever tends to stifle thought cannot but be harmful, and certain it is that a great deal of our current literature not only does not stimulate thought, but rather acts as a narcotic, dulling the memory and stupefying the reflective powers. A little of it might do no harm, but even good; yet most of those who read at all, in these days of free libraries and cheap books, read not a little. To be for ever acted upon instead of acting, to be always in an attitude of receptivity which leads to no activity, to have one's thinking always in the passive voice, so to speak, must tend not only to dwarf, but almost to paralyze, the intellect.

A habit of rapid skimming over even

good books leaves no room for reflection; thought after thought is dropped into the mind only to die there, instead of springing up and bearing fruit a hundred-fold; and the more precious the thought, the heavier the loss. The memory, hopeless of retaining all that is forced upon it, with no aid from the reflecting, combining, associating faculties, ends by retaining nothing. Books are read for the mere pleasure of the moment, and are forgotten as easily as they were read. If only their substance had been assimilated by the mind, this had been matter of less consequence. They would have nourished and built up the intelligence, and so far have done their work.

But this the majority of books of the present day are scarcely calculated to do, without more careful study than they are likely to get. It is not with them as with the books of two or three generations ago; then the lightest of them were somewhat hard nuts to crack; they were perforce worked over, nibbled at here and there, returned to again and again; to get at their sweetness was not so easy a matter, but once gotten, it passed into the very fibre and texture of the mind. Hence there were fewer readers, and they who read, read to purpose. Giant thinkers are rare enough in any age; but in the former time, with far less of culture, people in general were thinking as they do not now.

To learn to think—that is the great problem, the aim of all our education, the true object of all our reading. The noblest employment of the cultivated mind, how great the pity that it should be so often lost in the craving for a pleasurable sensation which lasts but for the moment!

EDITORIAL DEPARTMENT.

THE SCHOOL JOURNAL.

LANCASTER, APRIL, 1883.

E. E. HIGBEE. - - - - J. P. McCASKEY

THE following announcement from Deputy Supt. Houck, Chairman of the Executive Committee of the State Teachers' Association, has a practical bearing upon the approaching meeting, to be held at Williamsport during the second week in July next. This meeting will be largely attended, and, from the arrangements making, its programme promises to be one of an unusually interesting character. Says Mr. Houck:

The time fixed for the meeting of the Association, July 10th, 11th and 12th, seems to give general satisfaction. Quite a number of Superintendents have already written informing the committee that they would do all in their power to secure a good attendance from their respective counties and cities.

Williamsport is one of the most beautiful cities in the State, and is not only easy of access, but the scenery along the railroads leading to it is probably unsurpassed.

We have the assurance of Supts. Riddell of the county, and Transeau of the city, of the most cordial support, and both ask for an early public meeting in Williamsport to take such action as may be deemed necessary. The following resolution was unanimously adopted at the last County Institute:

Resolved, That we, teachers of Lycoming, will make all due preparation to accord a hearty welcome to our fellow-workers from various parts of the state as they come to our midst, and that we will leave nothing undone to add to their comfort and pleasure during their stay with us.

THE vacancy in the office of Deputy Superintendent of Public Instruction has been filled by the appointment of Hon. John Q. Stewart, of Lawrence county. The promotion of Mr. S. to this important position is in accordance with the act requiring this position to be filled by promotion of one of the clerks familiar with the work of the Department, and will give general satisfaction to the friends of education throughout the State. Mr. S. has a thorough knowledge of school affairs, good judgment, and great force of character. He has been a successful teacher, active in every educational movement, and during his four years' service in the Legislature, two of which he was chairman of the Committee on Education, he was an able and earnest advocate of the school interests of the Commonwealth. He will fill this new office with credit to himself and friends, and for the good of the schools.

The desk made vacant by this promotion will be occupied by Mr. A. J. Davis, the late active Superintendent of Clarion county, an eminently worthy appointment.

THE article on Electric Progress, elsewhere in this issue, is of absorbing interest. There are many who, as they conclude the reading of it, will draw a fuller breath of wonder at the possibilities here realized by the restless spirit of invention, and of yet vaster possibilities that lie beyond. The earth is a great reservoir of electricity, whose mighty energies man has but begun to utilize. The sun is a grand centre of

electrical forces, as no doubt is every star in every stellar system of the universe. Electricity lies near the secret of Life, and, it may be, of all the vital processes both animal and vegetable. It may, indeed, hold the secret of attraction, and of perpetual motion so grandly exemplified in the movements of the heavenly bodies. The scientist and the inventor are only upon the threshold of the marvels which this mysterious agent is destined to unfold. The Franklin Institute of Philadelphia is now arranging for an exhibition exhaustive of Electricity as an applied science, to be given within the next two years. At the recent session of Congress an act was passed admitting free of duty whatever inventions from foreign countries would add interest or value to the proposed exhibition. It will be a memorable showing, one eminently worthy the last quarter of this marvelous Nineteenth Century.

DR. WICKERSHAM, who was present during four days of the Virginia Convention of County Superintendents, recently held at Richmond, reports a very large attendance of these school officers from all parts of the State, and such deep interest and earnest purpose manifested as give bright promise for the near future of the "Old Dominion."

AT a recent meeting of the Board of Trustees of the State Normal School at Millersville, Dr. Edward Brooks tendered his resignation as Principal, to take effect in July next. This gentleman has been connected with the school for the past twenty-eight years — eleven years as professor of mathematics, and seventeen as its principal. He is a teacher of rare fitness, natural and acquired, for the work both of the class-room and of the lecture room. Here he has always been eminently at home; and the methods and results of this work, as presented in his various text-books, have been carried far beyond the circumscribed field of influence of even the great school over which he has presided so long and so successfully. Though his health has been somewhat impaired by the continuous strain of past years, he is yet in the prime of manhood, with the fair prospect ahead of a round quarter of a century of useful, happy years. He has earned his holiday, and, with troops of friends who know him far and near, we wish him all the gladness it can bring. Says the *New Era*:

The resignation of Dr. Edward Brooks as Principal of the State Normal School at Millersville, is an important incident in the history of popular education in Lancaster county, and of the State also. Few, if indeed any, men identified with our educational interests possess so many of the essential qualities of the educator, combined with a high order of administrative capacity, The steady progress and great success attained by the institution over which he has so long presided, and in which he had before been one of its most efficient professors, leaving it as he will in a more prosperous condition than it had attained at any previous period, or than has been reached by any similar institution, fully attest his ability as an executive officer. No one who has had any experience as a teacher need be told how difficult it is to conduct a school of five or six hundred young men and women, where the most exact discipline is a moral necessity, and yet allow that social intercourse which, within proper limits, is a healthy stimulus to intellectual attainments in the co-education of the sexes. In this respect the great institution with which Dr. Brooks has been identified has been a phenomenal success, and it will be a difficult matter to fill his place with one who can take up the work and carry it with equal success where he will lay it down.

GEN. EATON, the Commissioner of Education, is strongly in favor of a liberal provision by the General Government to further the cause of education. It is true $80,000,000 are annually expended in the support of common schools and that 9,000,000 children attend them, but there are 5,700,000 who do not go to any schools, and an effort should be made to reach them. There has been a gain of three per cent. in general intelligence throughout the country during the last ten years, but there was a gain of 500,000 in illiterates during the same period. The need of more facilities is greatest in the South, in New Mexico, in Alaska, and among the Indians. Gen. Eaton believes it to be the duty of the government to provide the required facilities.

IN directing Profs. Andrews and Tillman, of the West Point Military Academy, to visit Harvard, Yale, and other American colleges, Hon. Robt. E. Lincoln, head of the War Department, desires thorough inquiry to be made into the course of study and methods of instruction of the leading American colleges and universities. Secretary Lincoln has little faith in any narrow English course that can be taught without marked literary attainments on the part of instructors; nor any sympathy with the martinet idea that young lieutenants who have graduated from the Academy—however limited their attainments in English literature—are to be preferred to civilian instructors of

eminence in this important field of study. In mathematics, military engineering, military tactics, etc., army officers, graduates of the Academy, are conspicuously the men for the work. But in the great departments of English literature and the natural sciences the best instructors are to be found—and should be sought—beyond the ranks of the regular army.

Referring to this order from the War Department a leading army officer says: "It may be considered a new departure; but the world moves, and we must keep abreast with the spirit of the age. It is desirable that West Point should avail itself of everything which is commended and endorsed by the ripe experience of our leading institutions of learning."

THE following thoughts from a recent address on Sunday-schools, are suggestive to teachers in other schools as well:

What is our greatest need in Sunday-school work at this time? It is the worker's skill in interpretation and vitalization of the Word—to make known the Word and the conscious life behind it. To understand writing there must be a power behind to feel it. To write a poem, man must live a poem. Men find in literature what they bring to it. The principal thing we get out of literature is our own confirmation and vitalization of what we bring to it. If God is not at the little end of the telescope, he will not be found at the other, but we will only bring back a dark and atheistic view of the brightness of the celestial worlds. If the soul is small and mean, how can it understand Æschylus and Plato? If the soul is not swift as an eagle, lion-like and king-like, how can it understand Shakespeare? If there is no tragedy in the soul, there is none in the book. He is not a great teacher who can thrash out the dry grain of a subject, but he who knows how to vitalize and quicken the power within. True teaching is the vitalization of the spiritual power in those we teach. The literature of the Bible is the greatest of all. It underlies the heart in everything. It is the literature of the heart, Christ, God, forgiveness, and hope of immortal life.

LORD CHESTERFIELD, in his "Advice to his Son," while giving many excellent rules of politeness, shows so plainly utter selfishness that he should forfeit the respect of every honest man and woman. As an example of a character the extreme opposite of his own, that is, of the intimate union of real kindness of heart with delicate perceptions, we quote from Landor's "Pericles and Aspasia," where Pericles says, "I never say that a thing pleases me while it is yet undone or absent, lest I should give somebody the trouble of performing or producing it. As for what is displeasing, I really am insensible in general to matters of this nature, and when I am not so I experience more of satisfaction in subduing my feeling than I ever felt of displeasure at the occurrence which excited it. Politeness is of itself a power, and takes away the weight and galling from every other we may exercise." We are justly proud of many things in our modern civilization, but it is still an open question how much we have improved in the last two thousand years upon the manly spirit of this Athenian.

AT the Washington county fair held in October last, a gentleman offered as premium a handsome pocket knife to the boy who was then, or had been within a year, a pupil in any of the public schools of the county, who should furnish the neatest solution with the correct answer, accompanied with a written explanation, of the following problem:

The Canonsburg Iron Mills required a piece of hewed timber for their engine, 24 inches square. What would be the *diameter* and *circumference* of a tree at the height of 40 feet that would make it, allowing the bark to be 1¼ inches thick?

The solutions were to be placed in an envelope without any signature, and addressed to the Secretary of the County Agricultural Society on or before the second day of the fair, who would enter the name of each competitor on a book, and number the envelope to correspond with the name. The committee, Co. Supt. G. A. Spindler, and Messrs. A. M. Gow and T. J. Duncan, both ex-principals of the Union Schools, after examining the papers submitted, reported that "considering the correctness of calculation and result, neatness of paper, and accuracy of explanations," they awarded the prize to No. 2. He proved to be a colored lad, named Welcome Jones.

PROF. HUXLEY advocates the use of the Bible as a reading-book in schools, in language of unusual warmth, which may well surprise those of his critics who charge him, rather hastily, we think, with "materialism" and "atheism." His accusers may take comfort in the old adage, "Fas est et ab hoste doceri." These are the words of the eminent naturalist:

I have always been strongly in favor of secular education, in the sense of education without theology; but I must confess I have been no less seriously perplexed to know by what practical measures the religious feeling, which is the essential basis of conduct, was to be kept up, in

the present utterly chaotic state of opinion on these matters, without the use of the Bible. The pagan moralists lack life and color, and even the noble Stoic, Marcus Antoninus, is too high and refined for an ordinary child. Take the Bible as a whole; make the severest deductions which fair criticism can dictate for shortcomings and positive errors; eliminate, as a sensible lay teacher would do, if left to himself, all that it is not desirable for children to occupy themselves with—and there still remains in this old literature a vast residuum of moral beauty and grandeur. And then consider the great historical fact that, for three centuries, this book has been woven into the life of all that is best and noblest in English history; that it has become the national epic of Britain, and is familiar to noble and simple, from John-o'-Groat's House to Land's End, as Dante and Tasso were once to the Italians; that it is written in the noblest and purest English, and abounds in exquisite beauties of mere literary form; and, finally, that it forbids the veriest hind who never left his village to be ignorant of the existence of other countries and other civilizations, and of a great past, stretching back to the farthest limits of the oldest nations in the world. By the study of what other book could children be so much humanized, and made to feel that each figure in that vast historical procession fills, like themselves, but a momentary space in the interval between two eternities; and earns the blessings or the curses of all time, according to its effort to do good and hate evil, even as they also are earning their payment for their work?

To those who have not the good fortune to be thoroughly disciplined by a course of study, it is a question of no small consequence to decide what to read, especially if one's time is limited in this matter, and one feels obliged to make the most of the minutes. Although the case in this regard, born of necessity, might be the very best course for all to pursue, still, those who fully realize it through the iron grip of necessity, will probably be the only persons to profit by it. "Have you read such a book?" I said to a friend of culture and remarkable conversational powers. "Oh, no; I find no time for any reading save the Bible and Shakespeare." I did not know the wisdom of her course at the time, but surely if one can draw from the fountain head, why linger beside the rills and springs adown the stream? Having the nectar and ambrosia of the gods, feeding among the lilies, why strive to derive nourishment from the barren hedgeway, or the dusty roadside? "Self-Culture," by John Stuart Blackie, professor of Greek in the University of Edinburgh, is one of the most admirable of guides in this matter. It is, itself, rich nourishment for a hungry soul. And the instruction given, and helps suggested, are worthy the closest attention of every person who desires to make the most of himself in this life, and be capable of the highest enjoyment in that which is to come. It is a treasure of good things, as satisfying to the heart and intellect as food to the perishing. Reading is the food by which our hearts and minds attain to their full growth and highest endeavor. Let it be of the best.—*Interior.*

THE diffusion of intelligence and the creation of a public conscience are the paramount needs of the present day. There is an intimate connection between the intellect and the moral sense. Christianity is not only the most intelligent religion known to man, but demands of each and all mental culture for the due appreciation of its obligations and provisions. The Bible unfolds to us the highest order of thought, and fills the mind with the noblest conceptions of God and man. Wherever it spreads its banquet of wisdom and love, there the common intellect is emancipated, and there is possessed the largest average intelligence. As Americans, we must insist upon intelligent citizenship. Such a citizenship may not be necessary for monarchical or aristocratic countries; but here, where each man is a sovereign and each a citizen of the republic, there must be intelligence to understand the nature and obligation of law. We cannot insist too strenuously upon the maintenance of our system of common school education. He who cannot read the constitution under which he lives, should not be allowed to exercise the political functions of a citizen. Yet too much stress must not be laid upon knowledge without a moral force to direct it. It was Lord Bacon who said, "In knowledge without love there is something of malignity." It was Coleridge who said, "All the mere products of the understanding tend to death." It was St. Paul who said, "Add virtue to your knowledge." Some of the most brilliant intellects have been monsters in crime. Knowledge is a power for good or for evil according as it is controlled by a moral force. Call conscience what you please—"the faculty of the soul," "a sense of moral obligation," "a perception and a sensibility," "a moral sense" or "a witness"—one thing is true—namely, that we may create within ourselves and in others such a sense of right and wrong that men will entertain for the same a profound respect. We can cultivate this moral sense to the exclusion of hatred, jealousy and revenge, and to the manifesta-

tion of love, honesty and honor. We need to-day, more than ever in the past, a public conscience that will respond to every obligation of duty and of justice.

THERE are eleven States in which women can vote at the elections for School Directors. "Women for these offices," says Susan B. Anthony, "are particularly appropriate, since a large proportion of the school teachers are of the same sex."

STUDY OF ENGLISH LITERATURE.

THE study of *English Literature*, which confines itself to a list of authors, giving data of birth and death and list of published writings, together with *ad libitum* extracts from the same, with straggling comments, may be of service in the way of cultivating the memory, and gaining points which will be of use in subsequent investigations. No proper knowledge of English literature, however, can be gained in this way.

Of course, it is important to know when an author lived, for literature cannot separate itself from the life and history of a people. It is itself a vital exponent of the national life, and must be studied historically. The age of Chaucer and Wycliffe must be familiar to him who would attempt to gain any adequate grasp of the literary career of these men. But admitting that the historical data are well understood, only then are we in readiness to take hold of the writings, which carry into the field of thought and art the spirit of the age itself.

A few lines from Chaucer are not sufficient here. The preface to the "Canterbury Tales," and the tales themselves, should be studied, until the student has some intelligent grasp of Chaucer's characteristics—his method of thought and art. This is specially necessary, when we have an epoch and an author so fundamentally significant to the whole study of the English tongue and literature.

Indeed, each age which constitutes an epoch in the national life will assert itself in the realm of thought and art—will find expression for itself in the literature thereof. And such epochs demand a fuller and more careful survey than the intervening periods.

For purposes of ordinary study, it will not be necessary to extend the survey to fragmentary literary efforts, which are not in themselves significant in characterizing an age or period.

After an earnest examination of Chaucer and Wycliffe, in which the student has gained some grasp of the language and literary characteristics of these great exponents of the opening literary life of England in the vernacular tongue, the great epoch of the Reformation, toward which as beaconing stars both Chaucer and Wycliffe led the way, can next be taken up, and Spencer and the dramatic glory of Queen Elizabeth's reign come under careful survey; not, however, in the way of mere straggling fragments. The fading glory of the old chivalric period, with its tourneys and feudal splendors, must be seen revived in inner spiritual forms in the Faery Queen of Spencer; and the new awakening of life through the discovery of a distant and romantic world, together with the fervor of new religious convictions in reference to the meaning of our earthly life, must be found interweaving themselves throughout the magic structure of his verse.

To this great epoch, in which the will and intellect of the English national life was never before so aroused, asserting itself not only in acts but in forms of literature no less significant and grand, the student must be directed with great care; and a whole year of most critical study will hardly be sufficient to secure an inspiring glance of its glory.

In fine, what we plead for in this brief article, is such a study of English Literature as shall do away with all fragmentary memorizing of external data, and address itself to the literature itself; and that time shall be given to the work, at least as much time as is given to gain the elements of mathematics or of science. It will be of service in studies purely historical and linguistic, and will awaken a reverence for the classic strength of our mother tongue, more needed in this fast age than ever before.

AT LAST.

ELECTION OF CITY SUPERINTENDENT OF PHILADELPHIA SCHOOLS.

SOME months since, at the application of the Board of Control, the City Councils of Philadelphia voted an appropriation of $15,000 towards defraying the expenses incident to professional supervision of the schools. It was hoped at that time that the services of Col. F. W. Parker, of Quincy, Massachusetts, could be secured. But the Cook County Normal School, at Chicago, had, a short time before, made him an offer of $5000 per year, with satisfactory conditions as to the management of the school, which position he accepted.

At a meeting of the Philadelphia Board

of Education, held March 13th, the Special Committee of Seven appointed under resolution of April 11th, 1882, reported as follows:

After a careful, thorough and impartial consideration of all the names presented to the Committee, and having regard to the literary attainments, knowledge of educational methods, experience in the management and superintendence of all grades of schools, as well as the recognized standing in the profession of the respective persons, your Committee has unanimously concluded to submit to the Board the name of James MacAlister, at present Superintendent of Schools in the city of Milwaukee, as a man whom they believe to be thoroughly qualified for the office of Superintendent of the Public Schools of the First School District of Pennsylvania.

The Committee, therefore, recommends the adoption of the following resolutions:

Resolved, That James MacAlister be, and he is hereby, elected Superintendent of the Public Schools of this District.

Resolved, That the salary of the Superintendent shall be $5000 per annum.

The resolution fixing the salary at $5000 was adopted after prolonged discussion, and Mr. MacAlister was formally elected by an almost unanimous vote.

The newly-elected Superintendent is a stranger to Pennsylvania. He was born in Glasgow, Scotland, where he received a superior elementary and classical education, and attended the University for a year. He came to this country when a youth, and entered Brown University, Providence, but, after attending for a year, his health failed, and he was compelled to withdraw, his education being continued under private instruction. When quite a young man he was elected principal of one of the Milwaukee schools; and, after a year's service, was promoted to the principalship of the Fourth District School, comprising primary, intermediate, grammar and high school departments, and at that time the largest school in the State.

On completing four years' highly successful work here, he decided to study law, and went to the Albany Law School, where he graduated in 1865. He was admitted to the bar the same year, and practiced with much success for a few years in Milwaukee. During this time his interest in educational work was actively maintained. He delivered numerous addresses before educational institutions and bodies, and held the honorary position of Secretary of Milwaukee College.

In 1870, he was made a member of the School Board of Milwaukee, and served two years—one as Chairman of the Executive Committee, and the other as President of the Board. During this time he commenced those reforms in the Milwaukee school system, which have since made it one of the most efficient and best known in the country. In 1873 he was elected superintendent of schools, and abandoned the legal profession. He has been superintendent for seven years. Among the other results of his labors, the establishment of the High School and Normal School as permanent features of the city system must be named.

The educational exhibit of the Milwaukee public schools at Philadelphia in 1876, first brought Mr. MacAlister before the country as an educator. He was visited that year by M. Buisson, President of the French Commission on Education, who, both in this country and Europe, spoke of the Milwaukee schools in very high terms. Mr. MacAlister is now approaching middle age. We trust that he may prove the man for the place in Philadelphia, and that he may grow old in the good work.

The Philadelphia *Ledger*, under the heading "A Good Day for the Schools," says:

The newly-appointed Superintendent for the Public Schools, Mr. MacAlister, appears to have had twofold preparation for the office. He has not only large practical experience as a teacher, but has served in the administrative capacity also, as President of the Milwaukee Board of Education, as Regent of the Normal Schools in the State Board, besides other associations with educational bodies, and in the directorship of a public library, and of various academies of sciences and the arts in that wide-awake State, Wisconsin. It is particularly important for this newly-created office in this city that a broad man shall give it the first impulse and shape. Between the Board of Education with its functions, and the Sectional Boards with theirs, the Superintendent must supply the hitherto missing link. He must know precisely what difficulties every teacher has to encounter in the schoolroom, and must also see eye to eye with the School Boards, in their efforts to have each Section the model Section in the city.

Such an officer has long been needed to bring all the schools into line, so that uniform good methods of teaching shall prevail in all the schools. It is gratifying to know that Mr. MacAlister is on record as testifying that public education must be for the interest of the many rather than the few, and that its foremost object should be to provide the many—that is, the children who never go beyond the primary and secondary schools—with such training as shall "fit men and women for the circumstances under which they are to live in the world;" and that "primary schools must conform to the existing necessities of the people." This is clear-sightedness as to the existing needs of Philadelphia, though the quotations are made from an extemporaneous speech delivered by Mr.

MacAlister, before the American Institute of Instruction, at its Saratoga meeting last July.

Far beyond any text-book for use in the schools, is a method of education that will train a child to use all its faculties, to express itself correctly, *to think clearly*, and to observe for itself.

This teaching cannot be left for the finishing touches of the High and Grammar schools. It must be put in before the age of ten. It must begin with the youngest class. That child is much better fitted to make its way in the world who can frame a clear sentence in reply to a question, or can describe plainly what it sees, or what it likes best to do on a Saturday holiday, than if it had all the cut-and-dried questions of the text-book, or even the more deceptive formula of an oral *drill*, by heart and to order. Words and things are the two pillars of the school edifice; yet, instead of intelligent use of words and the observant knowledge of things, too much of the precious early school time is wasted in the absurd memorizing of rules, which are neither words nor things in the true educational sense.

We are sure that the teachers of our public schools, who have been too long hampered by the old ideas that "rules," grammar rules, arithmetic rules, spelling rules, phonetic rules, etc., are the first and essential lessons for the eager young intelligence or the dull vacuity of a "backward" child, will gladly welcome a new order of things—we are confident that a general order which allows each teacher the freedom of her class, will be most grateful to all who have interest and enthusiasm in their calling. Mr. MacAlister will find most intelligent co-operation among that body of women whom the city will some day acknowledge as doing its greatest work. Both the teachers and the School Boards are to be congratulated in the selection of this new officer, who, with their aid, will be able to give force and unity to the best efforts of them all, especially if he is allowed that full control over his assistants, under the supervision of the Board of Education, that is essential to the successful management of his business.

Another of our leading newspapers comments as follows upon this action of the Board of Controllers:

Philadelphia boasts, and justly, we think, of her noble educational institutions. Her University of Pennsylvania, her High School and her Girard College, rank among the ablest in the land. Yet, when she needed a Superintendent for her public schools, she was obliged to call a man from the far West to assume the position. How is this? Can it be that among all her sons, among all the alumni of her educational institutions, not one could be found who was deemed qualified for the station? To the average observer it would seem that one completely familiar with these local schools, and with the workings of the educational system of this State, would be better qualified for so important a task. Local pride also might have been expected to step in and play its part; but even this was dropped, and a stranger, known only to fame, secured the place. It looks as if Philadelphia had "gone back on herself" in this matter.

It is the commendable spirit of "home pride in home products" which may be carried too far, especially in educational matters. "The best man available," is the wiser policy, find him where we may.

As in the selection of a City Superintendent the school authorities often do well to look beyond their borders for the best man, so also in the choice of County Superintendent. The best man should be sought regardless of county lines, the interests entrusted to his care being of the gravest importance. Eminent ability and conspicuous fidelity in the broad work of county supervision would thus command a much wider field of employment, at better remuneration, and to the great good of the schools. Let us have a large and growing body of experts whose reputation shall not be bounded by State or County lines, and whose services shall be sought wherever first-class supervision is desired. Progress lies in this direction.

OBITUARY.

REV. COLUMBUS CORNFORTH died at his residence in Clyde, Kansas, on Saturday, February 10th, 1883, aged 52 years and 10 days.

The above announcement will be read with sorrow by the many friends of Mr. Cornforth in this State; but none will grieve more than the friends of the Soldiers' Orphans' Schools, and the thousands of Soldiers' Orphans, for he was prominently identified for a period of twelve years with this work, the noblest the State has ever done.

He was born in West Waterville, Maine, January 31, 1831. Of his boyhood we know very little—no more than this, that he was trained to hard work, and enjoyed but limited opportunities for attending school. But he was determined to secure a collegiate education, and with this object in view entered college in his own town and took a preparatory course. Immediately after this he spent three years at Union College, Schenectady, N. Y., graduating with honor at this well-known institution. And now with the ministry in view he entered the Rochester Theological Seminary, and graduated in 1858. In 1859 he was ordained pastor of the Baptist Church in Smethport, McKean county. He was an excellent preacher and pastor, and was universally beloved in the community in which he lived.

Soon after the disaster of Bull Run, he enlisted as a private in the 42d Regiment of Pennsylvania Volunteers, better known as the "Bucktails," under Colonel Kane—a regiment whose patriotism and valor were well attested on many a field of battle. December 13th, 1862, in the first battle of Fredericksburg, he was dangerously wounded and made prisoner of war. For several months he was confined in Libby prison, and barely escaped death. Here he was released on parole, but, being permanently disabled in the left arm, he was discharged from the United States service, June 5th, 1863. Not long after we find him re-entering the service as Chaplain of the 150th Regiment of Pennsylvania Volunteers, and here he served to the close of the war.

In August, 1865, he was commissioned Superintendent of schools of McKean county. In June, 1866, he was re-commissioned. Though filling this office for but two years, he made an excellent record.

In 1867, soon after the passage of an act by the Legislature re-organizing the Soldiers' Orphan Schools, Governor Geary commissioned Mr. Cornforth as Inspector of all these schools, and he resigned the County Superintendency to accept this new position. He was in every respect well fitted for this office. His sufferings in the army had prepared him to sympathize with the orphans of his less fortunate comrades. He attended to his duties faithfully, and did much to place the schools in their present excellent condition.

The last six or seven years of his life, he was in very delicate health, and suffered much, but he was always patient and hopeful. Like many others under similar circumstances, he thought a change of climate, an out-door life with new surroundings, might possibly benefit his health. After selling all his property, although so feeble that it was feared he could not make the trip, he started with his family for Clyde, in Kansas. Here he suffered frequently from his old attacks, yet the news at times was encouraging. But death won its victory at last, and in the prime of life he was cut down.

Though in his far-off prairie home, he was not without friends, as will be learned from the following extract, taken from the *Clyde Herald*:

"The funeral services were held at his residence, conducted by Rev. A. J. Essex, assisted by Rev. H. J. Gaylord. The interment was conducted by the G. A. R. Post, of which order he was a member. A very large concourse of old soldiers, friends and citizens, followed his remains to the grave, where Clyde's noblest and purest citizen was laid to rest amid the sobs and tears of many who were present." H. H.

OFFICIAL DEPARTMENT.

DEPARTMENT OF PUBLIC INSTRUCTION,
HARRISBURG, APRIL, 1883.

PROMOTION AND APPOINTMENT.

DEPUTY WILLIAM A. LINDSEY, having on account of severe and protracted illness, resigned his office, I hereby announce the appointment of J. Q. Stewart as general Deputy, to assume office on April 1, 1883. The clerkship made vacant by the above promotion has been filled by the appointment of A. J. Davis, Superintendent of Clarion county, Pa., who will enter upon his duties April 1, 1883, or as soon thereafter as possible.

E. E. HIGBEE,
Supt. of Pub. Instruction.

As a part of the historical record of the Department, we insert the following correspondence:

LETTER OF RESIGNATION.

HON. E. E. HIGBEE, *Superintendent of Public Instruction.*

Dear Sir.—In submitting this my resignation I desire to express the highest personal appreciation for the manifest esteem in which you have always held me and my official work—and the remembrance that my relations with all my superior officers have always been full and free will be a pleasant thought while life and senses shall remain. Indeed, my relation to the public schools of the State, which has been uninterrupted since I began to teach in 1861 (except for three years during the war), has always been agreeable and pleasant to me, and, whether as teacher or school-officer, uniform kindness has been my fortune from those for whom and with whom I labored.

To the school officers of the State, with whom I have labored, pleasant thoughts go out—and, towards some, strong personal yearnings to continue with them in the grand work of public education; but ill-health requires me forego all these relations, and to give up what has been my life-work, which I now do in handing you this my resignation as a school officer.

Very truly, WM. A. LINDSEY.

REPLY TO SAME.

MR. WM. A. LINDSEY.

My Dear Friend: No one can regret more than I that you are compelled to sever your connection with this Department. You have been most faithful to your work, and that work has been of the very ablest kind. I fear, indeed, that you did too much, and in this way injured your health.

In accepting your resignation, as I now do, I wish you to feel assured that your work has not been unrecognized by me and by all connected with this office; and that our warmest friendship and our most earnest prayers will follow you wherever Divine Providence may cast your lot. Be not discouraged, "Behind a frowning providence God hides a smiling face."

Yours, with highest regard,
E. E. HIGBEE.

THE MUSIC QUESTION.

VOCAL MUSIC TO BE TAUGHT IN THE GREENVILLE PUBLIC SCHOOLS.

In the case of John Ramsey et. al. *vs.* the School Directors of the Greenville School District, Mercer county, Pa., as to whether vocal music should be taught in the schools, Judge McDermitt recently delivered the following opinion:

Rule to show cause why an injunction should not be granted restraining David Hum, E. S. Templeton, Dr. W. C. Martin, H. M. Hamblin, J. E. Brockway and Wm. Paden, as School Directors of said district, W. H. Bell, as treasurer of said Board, from paying any of the moneys or funds of said district to any person or persons for teaching music in the public schools of said district.

BY THE COURT: Before argument, the following agreement was entered into in writing and filed with the papers of the case.

March 8th, 1883. It is agreed in the above

case, that it be settled upon bill and answer filed, and the following question be submitted for the decision of the Court, to wit:

First. Have the Board of School Directors the right to establish the teaching of vocal music in the schools as a branch of learning, under the laws of this Commonwealth?

Second. Have said Directors the right to employ a teacher specially to teach vocal music in the schools of the district?

JAMES A. STRANAHAN,
Atty. for Plaintiff.
GRIFFITH & HENLEIN,
Attys. for Defendants.

From the bill and answer the following facts are found:

1. The plaintiffs reside in, own property, and are taxpayers of said school district.

2. The defendants were duly elected school directors of said district, and had taken on themselves the discharge of their duties as such before the filing of this bill.

3. That the defendants have established a system of graded schools in said district, composed of fifteen rooms, in which they have introduced a thorough and efficient system of instruction in reading, writing, orthography, English grammar, geography and arithmetic, which are taught by competent and duly-qualified teachers to all the children of the district between the ages of six and twenty-one, and without any distinction.

4. That said district is well provided with apparatus and appliances for teaching.

5. Said board of directors has in addition to the branches above enumerated introduced into said schools other branches of learning, and among them the study of vocal music, both as a science and an art.

6. That for the purpose of teaching this branch of learning properly in the several school-rooms, said board has employed a competent teacher who is lawfully qualified to teach in the common schools, and who devotes his time to the teaching of the elementary principles and the art of vocal music in said school-rooms.

7. That said teacher is paid $50 per month out of the funds of said district.

8. That a large majority of the tax-payers of said district are in favor of teaching vocal music in said schools.

Counsel for the defendants cites and relies on the 1st and 2d sections of the VII. article of the Constitution of 1838, and 1st, 23d, 25th, 38th and 41st sections of the act of May 8, 1854, P. L. 617, and 11th section of act April 9, 1867, P. L. 55.

Counsel for the defendants cites and relies on the 6th clause of the 23d section of the act of 1854, P. L. 622.

This section of the act of 1854, last named, defines, in its nine subdivisions, the several duties and powers of school directors, and its 6th clause or subdivision reads: "They shall direct what branches of learning shall be taught in each school," etc. The discretion vested in them by this section of directing "what branches of learning shall be taught in each school," is neither repealed nor modified by any subsequent legislation. Exercising their discretion under this section, the board of directors of said district has decided that vocal music shall be taught therein as a "branch of learning." If vocal music is a branch of learning, this rule must be discharged; for if it is such a branch, the discretion of the directors must determine whether it is expedient or proper to be taught in the public schools. Possibly it was unwise legislation to vest this discretion in them, but with the wisdom of such legislation courts have nothing to do; for the exercise of judicial discretion (as this is) by the directors is not to be controlled by the courts through the agency of an injunction. There might be such a gross abuse of this discretion that the courts would be justified in restraining its action; as for example, if school directors were about to direct that Astrology should be taught in the public schools by Professor Wiggins, they would restrain such discretion as that.

Being of opinion that music is, both in philology and popular understanding, a branch of learning, it must be so regarded in law.

To teach music as a branch of learning in the public schools may work oppressively on the taxpayer who does not desire his children taught in this science, or when they have, as is often the case, no talent for its acquisition; but if so, the legislature, not the courts, must remove the oppression.

And now, March 20, 1883, rule discharged at the costs of plaintiff.

A. MCDERMITT, P. J.

ITEMS FROM REPORTS.

ARMSTRONG.—Supt. Stockdill: Last week I visited the schools of Perry township, and found much interest manifested in them. Five of the directors accompanied me to all the schools; they are the right men in the right place. The new school-house in Parker City will be the best in the county when finished. It will cost $12,000, and is expected to be ready for the next term. I have visited eight schools the second time, and find that they have made good progress. Our teachers are live and energetic. Several new buildings will be erected during the coming summer.

BEDFORD.—Supt. Cessna: I have one week's work to complete one trip over the county. I propose to visit as many schools as possible a second time. In some districts there is considerable complaint of incompetent teachers, but I do not know how to remedy the evil so long as the salaries are not more than $20 per month.

BERKS.—Supt. Keck: Good results will spring from the work of the local institute held at Strausstown on the 2d and 3d inst. We enrolled 34 teachers, and had at least 300 other persons in the room, which was too small to accommodate all; consequently some could not gain admittance. The last meeting of the kind for this term was held at Shillington on February 9th and 10th. We enrolled 54 teachers, and at least 400 citizens were present. The people took a great deal of interest in all these meetings. Dr. Schaeffer and Prof. Scheibner were the principal instructors. I have visited all my schools once, and some twice, the latter showing satisfactory progress. Cumru and Robeson have each erected a

first-class school building. They are both furnished with the very best furniture. Cumru also refurnished two old buildings.

BUCKS.—Supt. Woodruff: I held two local institutes during the month—one at Newtown, and one at Quakertown. Both were well attended, and the exercises were interesting and animated. On February 20th, I notified one of our grammar school teachers that I would annul his certificate in ten days, on account of "peculiar eccentricities of character, hasty speech, and general indiscretion."

CAMBRIA.—Supt. Strayer: I find many houses decorated with mottoes, pictures, evergreens, etc., and have made it a point to encourage all to do what they can in this direction. It is commendable to find school-rooms presenting a cheerful, home-like appearance, and it certainly adds much to the comfort of teacher and pupils. Many teachers are taking up the methods that were presented at our late County Institute, and are much better satisfied with results than formerly. Our teachers generally do not require enough written work on the part of their pupils. Written work should be performed in the preparation of daily lessons, as well as in reviews and examinations. The schools are generally better attended than last year, and many teachers, directors, and patrons are nobly working for their success.

CARBON.—Supt. Balliet: The schools of Nesquehoning have moved into their handsome new building. It is a substantial two-story frame house, has four large commodious rooms, and is supplied with good furniture. The school board of Mauch Chunk intend to erect a large new building for the schools of the first ward this coming summer. The plan of the building is being prepared with the utmost care, with a view of securing the very best means of heating, lighting, and ventilation. A number of local institutes have been held this month. They were all largely attended by citizens, directors, and teachers. These institutes have caused a general wakening up of the rural districts in matters of education. We find these meetings a powerful agency to mould and educate public sentiment with regard to the interests of our schools.

CENTRE.—Supt. Wolf: Two local institutes were held—one at Howard, the other at Millheim. Both were well attended and called forth considerable interest on the part of teachers and citizens.

CHESTER.—Supt. Harvey: Local Institutes were held in Atglen and West Grove. Both were largely attended by the teachers, directors and citizens of the community. It is very gratifying to see the interest that is taken in these educational meetings. No hall in the county will accommodate nearly all the people wishing to attend them. The directors of West Bradford have furnished each school with Butler's Map of Pennsylvania, and Mitchell's Outline Map of the United States. Rev. G. G. Rakestraw, of Downingtown, has presented to the schools of that borough a beautiful cabinet of minerals (over 200 specimens) neatly labeled. These have been arranged in a handsome case, the gift of the President of the School Board, John F. Evans, M. D. The teachers are making a practical use of these specimens, and it will not be long till the pupils know the names of all the minerals in the neighborhood.

CLEARFIELD.—Supt. McQuown: Eight private summer schools are advertised to be held in various parts of the county during the coming summer. Local Institutes were held at Wallaceton, Osceola, and Burnside, all of which were eminently successful. We have about finished our visitation tour, and are well pleased with the success of our schools. At the recent local elections some very excellent men were chosen school directors, which assures continued prosperity, in some districts at least.

CRAWFORD.—Supt. Chamberlain: One cold, windy day in the early part of February, the school-house in Dennison district, Summit township, took fire from a defective flue. The teacher, Miss Lydia Garwood, displayed more than usual coolness and energy, and more than might be expected of a lady on such an occasion. She directed the larger boys to go for water, the larger girls with herself assisting. One of the older girls took charge of the little ones to keep them from danger, while the intermediate grade carried out the books and movable furniture. The building was saved, as the result of a hard fight, and nobody was hurt. No teacher and pupils could have done better, and few so well. School adjourned one week for repairs, and then moved on again as usual.

DAUPHIN.—Supt. McNeal: Local Institutes were held during the month at Jacksonville, Linglestown, and Steelton: educational meetings at Union, Deposit and Gratz. An entertainment, consisting of readings and recitations by Prof. J. A. McKnight, of Harrisburg, was given in the Wiconisco High School, on the 19th inst. The proceeds were applied to the purchase of a Webster's Unabridged Dictionary for the school.

FOREST.—Supt. Hillard: I have examined the pupils of two schools this month, confining the examination as closely as possible to our course of study. The results of these examinations were but partially satisfactory. A certificate of scholarship is issued to the pupils who are examined, the scholars paying for the same—three cents. These examinations will be kept up during next month, and also during the coming year. We expect better results after a while.

JEFFERSON.—Supt. Kelly: There are 180 schools in this county. I have visited all except one, and traveled on foot the entire winter. I purpose holding eight public school examinations, beginning about the middle of March. In 1881 we graduated seven pupils, in 1882 twelve, and this year we expect to graduate about twenty-five. We are highly pleased with what our schools have accomplished this year.

JUNIATA.—Supt. Smith: The Local Institute held at Richfield during this month was a very successful meeting. Supt. Moyer and teachers of Snyder county joined us, and thus rendered the meeting more interesting and profitable socially and professionally. Brothers met for mutual encouragement and counsel. On Friday evening, Dr. D. J. Waller, of Bloomsburg State Normal School, spoke to one of the largest and most appreciative audiences ever assembled in Richfield. His topic, "Does Education Pay?" The weather was delightful, and thus everything was complete—a time long to be remembered.

MIFFLIN.—Supt. McClenahen: Some of the schools will close the first week in March, and most of them by the middle of March. The Milroy schools have been supplied with an Encyclopædia and Unabridged Dictionary during the present term. This was mainly due to the enterprise of Mr. O. H. Bakeless, the principal. There is still some opposition in parts of the county to what are termed "The New Methods of Teaching." This is owing, perhaps, to some extent at least, to prejudice, and a want of the proper understanding of these methods. If "grumblers" would look for results instead of measuring progress by the number of pages gone over in books, they would have less reason for complaints and fault-finding. Books, in the hands of some

teachers, are hindrances to real progress, but when rightly used are valuable aids.

NORTHAMPTON.—Supt. Werner: The directors of Washington established a District Institute in 1881, and in the beginning of the present school year the Board acted wisely in making the agreement with their teachers, requesting them to attend the township Institute; and it proves to have had the desired effect. Lower Saucon and a number of our boroughs have had their Institutes for a number of years. We hope that every district will establish an Institute next year. A very successful Local Institute was held at Moorestown, attended by 45 teachers and at least 400 citizens. The principal instructor was Dr. A. R. Horne.

PERRY.—Supt. Flickinger: A change of teachers has taken place in several of our schools since my last report. Buffalo township has been most unfortunate in this particular, but the schools are now filled and are doing very well. The principle of *cause and effect* is verified even by our corps of teachers, as I find that in almost every instance the failures in teaching reported to me, are of those teachers who find fault with the school system, and fail to attend our Institutes, and refuse to hold monthly examinations, and are constantly complaining of the irksomeness and uselessness of county supervision.

SOMERSET.—Supt. Weller: A new school-house has been built in Conemaugh district. A very great interest is manifested by the directors of this district in their schools. They are among those who are paying the highest salaries in the county. This is truly progress, as Conemaugh township was the last in the county to accept the free school system.

UNION.—Supt. Johnson: We have Local Institutes held regularly in four townships. These meetings are largely attended, and much interest and enthusiasm manifested, which no doubt will bring about good results. White Deer township will have a new school-house erected during the coming summer. The directors of West Buffalo have subscribed for *The Pennsylvania School Journal*. Money cannot be expended more wisely, and I sincerely hope that other Boards will imbibe the same spirit and follow their excellent example.

WARREN.—Supt. Arird: A Local Institute was held at Kinzua during the month. The citizens manifested a great interest in our work. Their words of encouragement and their substantial entertainment will not soon be forgotten by the teachers. The new school-building is an honor to the place, and reflects great credit on the citizens and school board. It is a well-constructed two-story building, with four rooms furnished in excellent style. Three schools are in session with an attendance of 125 pupils. O. J. Gunnings is principal.

WAYNE.—Supt. Larrabee: The teachers of Hawley Graded School are studying Mental Science under the instruction of their efficient principal, S. D. Barnes. Practical applications to the teacher's work are made of each topic. Mahan, Champlin, Wayland, and Haven, are used for books of reference. The teachers find this work very interesting as well as profitable. Recitations are conducted each Friday afternoon after school.

WYOMING.—Supt. Prevost: The Local Institutes are still progressing. There have been nine held in the county during the past month. Prof. D. C. Thomas, of Mansfield Normal School, was with us on February 24th, at Nicholson. He also delivered a lecture at Russell Hill in the evening. I have visited all the schools in the county except two during the present term.

YORK.—Supt. Williams: During this month all the schools of the county were examined by the teachers upon questions prepared by me. These examinations were all written.

BEAVER FALLS.—Supt. Knight: Our Board of Education visited the schools last week in a body and reported—"Well pleased with their condition and management." February 22d was observed as "Washington's Day" in school. Appropriate exercises were under the charge of the teachers. History, biography, sayings, doings, letters, etc., pertinent to the occasion, were brought by the pupils. Among the letters was an autograph letter (or fac-simile) written to the Grand Lodge of Pennsylvania, dated December 28, 1796, which attracted much attention. A few days ago, I sounded a false alarm of fire in our main building of three stories and twelve rooms; in 95 seconds the whole building was emptied, and all in good order. I am just in receipt of a communication from the President of Adrian College, Michigan, tendering a free scholarship in that institution to the pupil of our High School graduating with the highest honors.

EASTON.—Supt. Cottingham: A class of twenty-five or more teachers, with the Superintendent as leader, has been formed, and is now pursuing the study of Mental Philosophy as a preliminary to a course of instruction in the science of teaching.

HARRISBURG.—Supt. Foose: The schools of Mt. Pleasant building have been allowed by the Board to dispense with recess for a few months, and close school fifteen minutes earlier. This is simply an experiment. Thus far it has been found to work well, but when the warm weather sets in, most of the teachers will, I think, be glad to restore the fifteen minutes' recess.

SCRANTON.—Supt. Roney: A new school-building, with five large rooms and two class-rooms, erected during the present year, has been furnished and is now occupied by schools of the primary and intermediate departments under the care of four principal teachers and two assistants, having an enrollment of 236.

YORK.—Supt. Shelley: Early in February our Board of Control opened a night school, appointing two teachers to take charge of the same. The attendance has been good and the interest of pupils is increasing.

PERMANENT CERTIFICATES GRANTED.

FROM JANUARY 13 TO MARCH 7, 1883.

No.	NAME.	COUNTY.
3400	John W. Gilmore	Lycoming.
3401	A. W. Brown	Union.
3402	Joshua Johnson	"
3403	Calvin Sanders	"
3404	C. L. Shoemaker	"
3405	John H. Delong	Centre.
3406	Albert G. Morrison	Erie.
3407	Geo. W. Davidson	Lancaster.
3408	A. E. Gehman	"
3409	A. E. Jacoby	"
3410	John H. Royer	"
3411	Anna E. Rutter	"
3412	Emanuel Hoffman	Union.
3413	B. T. Parks	Snyder.
3414	Alzina Casselberg	Lycoming.
3415	Wm. P. Moyer	Snyder.
3416	Emily H. Dickson	Mercer.

LET OTHERS DREAM.

J. C. JOHNSON.

Spirited.
1. Let oth - ers dream of pleas-ant lands, Be-yond the stormy o - cean; Of gold - en treas-ure
2. 'Twas there in childhood's ear-ly day, I car-oled loud for glad-ness, And youth a - mid the
in the sand, And air in gen - tle mo - tion, There is a dear - er, hap - pier scene, To
ver-dant bowers, Had never thought of sad - ness. And now in sweet-est rev - e - rie, When
fan - cy oft ap - pear - ing, It is my na-tive val-ley's green, With beauty mild and cheering.
even-ing shades are fall-ing, Comes forth each pleasant memory, That time of light re - call - ing.

VESPER HYMN.

THOMAS MOORE.

Moderato.
1. Hark! the ves-per hymn is steal-ing O'er the wa - ters, soft and clear; Near-er yet and
2. Now like moonlight waves retreat-ing To the shore, it dies a - long; Now, like an - gry
f
near - er peal - ing, Soft it breaks up - on the ear, Ju - li - la* - te, Ju - bi - la - te,
surg - es meet - ing, Breaks the mingled tide of song. Ju - bi - la - te, Ju - bi - la - te,
p
rit.
Ju - bi - la - te, A* - men. Far-ther now, now farther stealing, Soft it fades up-on the ear.
Ju - bi - la - te, A - men. Hark! again, like waves retreating To the shore, it dies a - long.

* Pronounce as in *la* or *fa*-ther.

BOOK NOTICES.

NEW METHOD OF LEARNING THE FRENCH LANGUAGE. *By F. Berger, Consul General, etc. Price, $1.00. Pp. 138. New York: D. Appleton & Co.*

About five years ago, Mr. Berger, the author of the little work before us, began, in his native country, the task of teaching the English language by means of conversation. After he had prepared his manual of instruction, he sought a publisher, but could find no one willing to undertake the publication. "Why," said these men of the mart, "should we print your work, no matter how good it may be, since no one wants to learn English?" "Then we must create the desire," returned "the harmless lunatic," as his friends called him. So he printed the work at his own expense, and distributed it gratuitously by thousands to schools of every grade. Then, becoming a teacher in the parish schools, he proved the study of English to be easy by his new system. At the same time he sent out hundreds of thousands of circulars to show the usefulness of the English language. In the end he had the satisfaction of seeing his method adopted by the City of Paris for its public schools, and by the University for the colleges and lyceums throughout France. Having been appointed Consul to the U. S., he has prepared this work upon the same plan, in order to teach the French to English-speaking people. As the special feature of this book is the easy mode of mastering the pronunciation, which in French is the most difficult point, the work can be used with any method of teaching that language that may be preferred.

The plan of teaching languages by conversation, called by its friends "the natural method," probably originated in this country. At least it was started some fifteen years ago by Dr. Heness, at New Haven, and it has grown rapidly in favor in the Eastern States, where it is best known. From our own experience in the use of the method, though employed under rather unfavorable conditions, we feel convinced that, in the hands of competent and enthusiastic teachers, the new method is the best yet devised for attaining a mastery of foreign languages in a short time.

SYSTEM OF MENTAL PHILOSOPHY. *By Asa Mahan, D. D., LL. D. Pp. 285. Chicago: S. C. Griggs & Co. Price, $1.50.*

The venerable ex-President of Oberlin, now in his 84th year, gives in this book probably his "last word" on the subject on which, about forty years ago, his first publication received high encomiums. At that time American works on mental science were not so numerous as they are to-day; but whether we have advanced much in our knowledge of the mind and its laws, in the time that has intervened, is not so clear. One thing, however, is pretty clear, and that is, that the writer of a work upon philosophy cannot be suspected of making a book merely to sell. The hard thinking and long preliminary training necessary, deter from the market all save those who feel that they have a message to deliver. We feel a special respect, then, for the philosopher—the lover of wisdom—and regard as an evidence of culture the growing literature of mental science.

The book before us presents the whole subject of the science—the Intellect, the Sensibilities, and the Will—differing herein from many other works, which treat only of the Intellect. It is written in a clear, logical style, and the diction is probably as simple as the subject will admit. The only point of objection attracting our attention on a hasty perusal is, for a school text-book, the disproportionate amount of space devoted to combating the views of other writers. In an elementary work designed to interest students in a new study, only those facts which are generally accepted should be taught, and taught with authority. Polemical discussions serve only to confuse the mind, which has, as yet, no clear conception of first principles. Some of the examples given in illustrating principles seem to take for granted as facts what could not be proven to be such. This we pass over, since the propositions themselves appear to be correct.

HILL'S ALBUM OF BIOGRAPHY AND ART: *Containing Portraits and Pen Sketches of Many Prominent Personages together with Chapters relating to Evolution, Astronomy, Phrenology, Household Decoration, and Landscape Gardening. By Hon. Thomas E. Hill. Chicago: Hill Standard Book Company.*

The author of "Hill's Manual," many thousand copies of which have been sold, has just issued this new and valuable book. In its biographical department there are presented, in condensed form, the leading and essential facts concerning the lives of many who have been, and who are, prominent in the various lines of human effort. The range of the work includes the men who have moulded the religious beliefs of the world, who have been its masters in commerce, who have wrought great improvements, who have been its profound philosophers, who have made the people happy through laughter, who have sung its sweetest songs, —in a word, those who have been victorious in the battle of life, or have come in any field of effort conspicuously to the front. The record of their life-work reveals faults to be shunned and virtues to be imitated. Nearly all of these biographies teach lessons which the youth of the land will find profitable for study, while their perusal will instruct and interest others. The volume is worth its cost and will be very successful as a subscription book, for which trade it is designed. The general agent, Mr. B. W. Kraybill, advertises it elsewhere in this issue, and will be pleased to correspond with teachers and others who may wish to engage in the work of canvassing for the book.

THE ATLANTIC MONTHLY.—Henry James begins a three-act comedy in the April *Atlantic* called "Daisy Mueller." The most notable article is a paper by Oliver Wendell Holmes on "Pillow-Smoothing Authors," with particular reference to old Burton. It is in the Autocrat's best style. Charles Dudley Warner has a readable paper on "Modern Fiction," "An Early Humorist" gives us the history of a little-known man who played a very important part in the ecclesiastical world some centuries ago. Richard Grant White contributes a good paper on "The Ba con Shakespeare Craze." "Bird Songs," "Stage Buffoons," "Memorials of Rosetti," and "A New Parishioner," are among the other attractive contents. No American magazine ever had a stronger corps of contributors than the *Atlantic* has had from the first number. It has managed to retain them until now. As a consequence, its issues are always strong and well-sustained. Published by Houghton, Mifflin & Co., Boston.

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This series is remarkably well adapted for Supplementary Reading, and for School Libraries. It has met the approval of such educators as Prof. W. T. Harris, formerly of St. Louis, and F. W. Parker, Esq., formerly of Quincy. Twenty copies of seventeen different numbers (340 books) are now in use in the schools of New Bedford, Mass.

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   The Tent on the Beach. } Whittier.
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   The Cathedral. } Lowell.
   Favorite Poems.

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   Favorite Poems. Wordsworth.

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   Sintram. }
   Paul and Virginia. St. Pierre.

9. Rab and his Friends; Marjorie Fleming.
   Thackeray. } Dr. John Brown.
   John Leech.

10. Enoch Arden.
    In Memoriam. } Tennyson.
    Favorite Poems.

11. The Princess.
    Maud. } Tennyson
    Locksley Hall.

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